Public Utilities FORTNIGHTLY

March 21, 1929

PUBLIC UTILITIES REPORTS, INC.
PUBLISHERS

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Public Utilities Fortnightly

VOLUME III — *March 21, 1929* — NUMBER

PUBLIC UTILITIES REPORTS, INC., PUBLISHERS

PUBLIC UTILITIES FORTNIGHTLY; a magazine dealing with the problems of utility regulation and allied topics, including the official decisions of the State Commissions and courts; endorsed by the National Associations of the Utility Industry and by the National Association of Railroad and Utilities Commissioners, and supported in part by those conducting public utility service, manufacturers, bankers, accountants and other users of the publication. Published every other Thursday; 75 cents a copy; $15.00 a year; with bound volumes and Annual Digest, $32.50 a year. Editorial and advertising office, Munsey Building, Washington, D. C., circulation office, Duffy-Powers Building, Rochester, N. Y. Entered as second-class matter April 29, 1915, at the Post Office at Rochester, N. Y., under the Act of March 3, 1879.

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The new White Six Light Duty Trucks combine advanced style with complete driver comfort and practical utility. Available in a new range of color combinations. Chassis alone, including newest lighting and starting equipment, bumper, vacuum feed system, air cleaner, hot-spot manifold, rebound front spring plates, and complete equipment ready for body—$1850, f. o. b. Cleveland.

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The new Whites are built throughout in the vast White factory at Cleveland. They are notable examples of White's ability to pass on to users of transportation the benefits of the best engineering thought.

No matter what use you make of a truck, the new White Sixes offer advantages never before available in this field. On the basis of cost per package, per load, per eight hours of transportation service, there is no truck built that can do the job of the new Whites. The new Whites will prove economies and efficiency in your own operation that will amaze you. Call the nearest White Branch or Dealer.

Before You Buy Any Truck, See the New Whites Perform. You Will Be a Better Judge of Truck Values

We want you to see the new White Sixes and not take performance for granted. We want the new Whites to demonstrate to you a new kind of truck performance that is difficult to describe. Take advantage of this opportunity to learn first hand about the new Whites. We know there is nothing like them in the truck field today and a demonstration will prove every claim we make for them. Telephone the nearest White Factory Branch or Dealer for appointment.

THE WHITE COMPANY, CLEVELAND

WHITE
FOUR AND SIX CYLINDER
TRUCKS AND BUSSES

Pages with the Editor

So many readers have written in to request that PUBLIC UTILITIES FORTNIGHTLY publish an index of cases in each issue, that the Editor is yielding to his public and is starting this feature at once—beginning in this current (March 21st) number.

* *

WILLIAM BUTTERWORTH (whose article appears on pages 320 to 326 of this issue), is president of the Chamber of Commerce of the United States; in private life he is the president of both a manufacturing corporation and of a bank, as well as a director in other business enterprises—among them the United Light and Railways Company of Chicago. He has, therefore, a very real interest in the subject on which he writes—the plans for the development of our water power on a national scale.

* *

JOHN G. HOPWOOD, who tells (on pages 327 to 330) of the enormous savings to the ratepayers in Pennsylvania as the result of the Public Service Commission's methods of handling complaints informally—thus avoiding the delays and expenses of formal court proceedings—is Secretary of that Commission, and is, consequently, intimately acquainted with the facts of the cases.

* *

DR. WORTHY P. STERNS, who writes (on pages 302 to 312 of this issue), of the work, methods and purposes of the Federal Trade Commission, has been connected with the Bureau of Corporations and with the Federal Trade Commission since their beginnings; he has only just retired from the government service and—following Mr. Coolidge's example—is turning to magazine writing.

* *

IN view of the importance which the Federal Trade Commission has assumed as the result of its present inquiry into the activities of our public utilities, that organization has become an object of timely interest to utility executives throughout the country; Dr. Sterns' article answers many of the questions that they are asking about it.

* *

AGAIN the Editor has drawn from the Mail Bag some letters of praise of the new dress and of the expanding editorial policies of PUBLIC UTILITIES FORTNIGHTLY. For instance:

* *

"THE popular articles on regulatory problems that the new PUBLIC UTILITIES FORTNIGHTLY contains," (writes Mr. C. E. Archer, treasurer of Peninsular Telephone Company of Tampa, Florida), "are unusually interesting, instructive and clear, and all of the executives of our company read them very carefully, as they can be read quickly and digested easily, and at the same time contain the vital facts, as they are handled in an excellent manner.

* *

"WE make it a routine to see that the persons in charge of our management, our financial, legal, accounting and valuation departments, see these new fortnightly issues in order to keep us up to the minute."

* *

FROM another prominent public utility executive comes the following commentary:

* *

"I WANT to let you know that PUBLIC UTILITIES FORTNIGHTLY is read with a great deal of interest by our executives and others; a copy is placed in our library and many employees avail themselves of it.

* *

"THESE fortnightly issues are an aid to us in keeping up-to-date on decisions, orders and recommendations of Courts and Commissions and on every-day utility problems.

* *

"WE have been subscribers to this service for many years and we feel that it is worth far more to us than the nominal cost. Dealing as it does with the essence of regulation in a matter which clearly brings out its value, it should be in the hands of all executives in the industry."

—P. S. YOUNG, *Vice-President,*
Public Service Electric and Gas Company,
Newark, N. J.

* *

BUT among the bouquets that enter the editorial sanctum is an occasional brickbat, too.

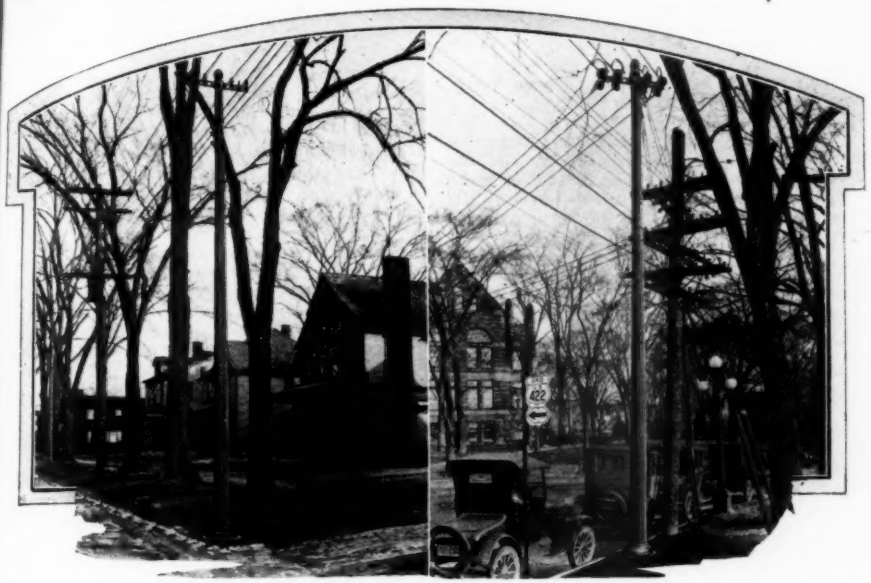
* *

ONE esteemed but temporarily disgruntled reader, for instance, objects to some of the opinions that are put forward by some of our contributors; he takes particular exception to several of the remarkable remarks that are selected for publication in the editorial feature that is labelled—with peculiar propriety—"Remarkable Remarks."

* *

THE kick registered by this esteemed reader is, in its very nature, an unwitting tribute. For the interest that lies in these remarkable remarks—(and some of them are startling, we freely admit)—may be attributed to the fact that they represent

(Continued on page VIII)



Permanent Poles Provide Better Distribution Service

A PERMANENT institution naturally demands permanent materials for its equipment. Consequently, when the Ohio Public Service Company decided to rebuild their distribution system in the downtown district of Warren, Ohio, they selected Union Metal Poles to replace the old type. The above photographs show the work in progress.

All services now carried on several sets of poles will be combined on the new Fluted Steel Distribution poles. The reduction in the number of poles will do much to improve street appearance. The credit for this improvement, of course, accrues to the benefit of the utility.

Utility companies in dozens of cities are revamping their distribution service through the use of attractive Union Metal Poles. The long life of this type of pole protects the original investment.

Union Metal engineers are ready to help you with your particular problems and show you how this modern equipment can benefit your company.

THE UNION METAL MANUFACTURING CO.
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Offices in all principal cities

UNION METAL
DISTRIBUTION AND TRANSMISSION POLES
VII

widely divergent opinions, often expressed in striking terms.

* *

To assume, however, that the Editor endorses all of these conflicting opinions is, of course, a self-evident error.

* *

WHEN the Reds accuse the Editor of showing partiality to the Blacks, and the Blacks acuse him of being biased in favor of the Reds, the Editor can merely conclude that he is being about as fair as is humanly possible.

* *

AND being fair, too, without committing either himself or this magazine to the views expressed by his contributors.

* *

A FEW days ago the Editor invited a certain Very Distinguished Gentleman (whose ideas about public utilities regulation have been somewhat at variance with those entertained by most utility executives, but none the less interesting on that account), to express his present opinions in a comprehensive and authoritative article for publication in PUBLIC UTILITIES FORTNIGHTLY.

* *

HIS reluctance has inclined the Editor to wonder if the Very Distinguished Gentleman's opinions have not been undergoing some modifications since he first committed himself—a circumstance that would at least offer a plausible explanation of his apparent hesitancy in either declining the invitation or in accepting it.

* *

POSSIBLY he finds himself in the position which he no longer wants to maintain, but from which he finds it difficult to withdraw—as did the youth struggling with his hand in his horse's mouth, pictured in a recent issue of the London *Punch:*

* *

"HI! What are yer puttin' yer 'and in 'er mouth for?" asks the riding master.

* *

"I AIN'T," was the youth's reply. "I'm trying to take it out."

* *

THE much-discussed Worcester Electric Light Company case will be found in this issue of PUBLIC UTILITIES FORTNIGHTLY. The report by Special Master Warner upholds the order of the Massachusetts Department of Public Utilities, reducing electric rates.

* *

ALTHOUGH the Worcester Company is found to be earning enough to repulse the claim of confiscation, the Special Master refuses to sustain the theory that rates should be based upon investment rather than upon present value, measured largely by reproduction cost less depreciation.

* *

THE United States Courts are declared to be without power to fix rates, but their province in interpreting the constitutional rights of public utility companies when passing upon orders of State Commissions is set forth.

* *

CONTRACTOR'S compensation, labor rates, paving over conduits, overheads generally, going value, and other factors that are usually considered in valuation cases, also receive the attention of the Special Master.

* *

ONE of the important elements which form the basis for the decision that the rates are not confiscatory seems to be the question of apportioning revenues between commercial, domestic lighting and power customers. The Special Master rejects the idea that the net income from the service covered by a Commission order should be considered alone without considering the income from other classes of service.

* *

AMONG the new public utilities that seem destined to assume major importance is aeronautics; especially and specifically, of course, commercial aeronautics.

* *

THE gradual but inevitable growth of passenger-carrying service by airplane; the coordination of this service with the railroads, and the extension of the airmail and express service, are all raising new problems in regulation.

* *

IN the course of its investigations, PUBLIC UTILITIES FORTNIGHTLY has come across some mighty interesting information, as well as some men who have some mighty interesting ideas about what should and should not be done in placing this new utility under control.

* *

DURING the coming months the Editor expects to present his readers with several contributions from these men—all of whom are outstanding authorities in this field.

* *

ON several recent occasions our articles have been reprinted in pamphlet form and sent out in large quantities; one of the latest to be thus honored is the article "Present Costs," by Prof. Harry Gunnison Brown, which was published in our March 7th issue.

* *

THE Editor is always glad to cooperate in thus accommodating his readers and contributors and in extending the influence of this magazine among those who are unable to obtain additional copies.

* *

FOR we print barely enough copies to supply our regular subscribers; consequently when unexpected demands are made for extra copies, the edition is promptly exhausted.

* *

To meet this rapidly growing demand, our next issue (dated April 4th) will be the largest that this periodical has ever printed.

—THE EDITOR.

MARCH

Utilities Almanac

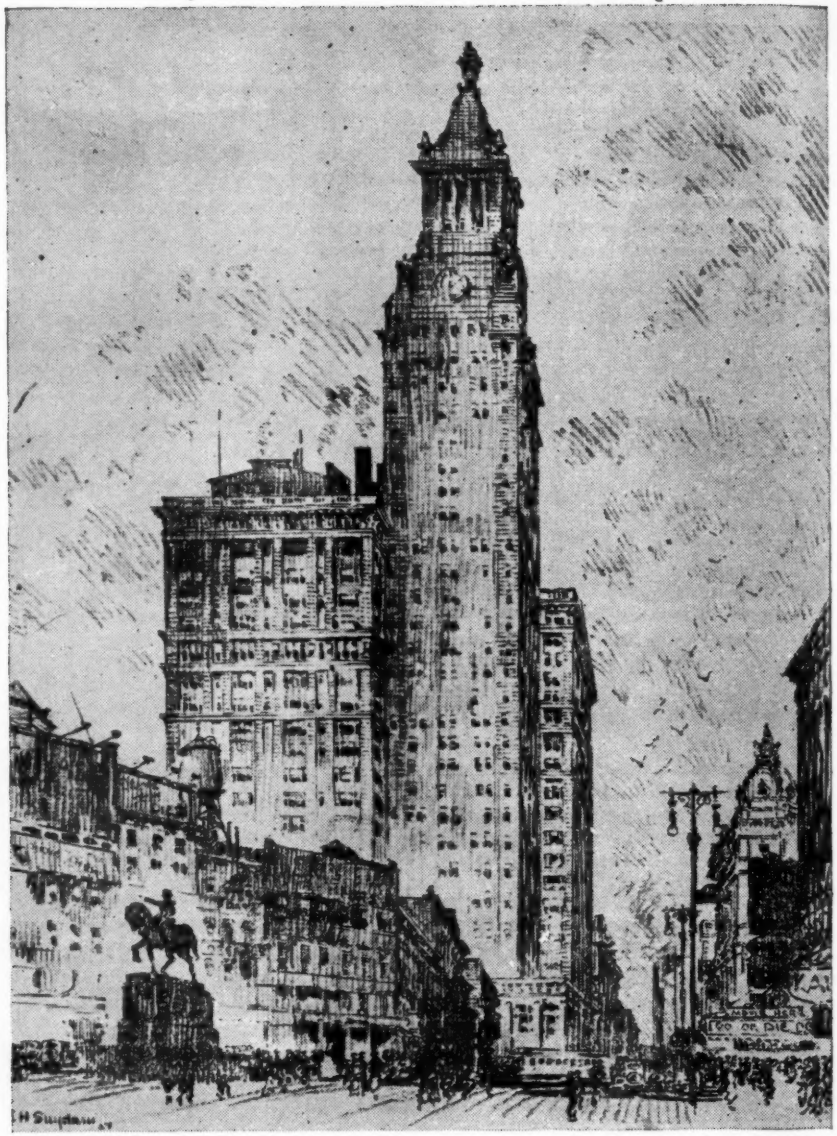
Reminders of Coming Events — *Notable Events and Anniversaries*

21	T^{h}	The Pennsylvania Railroad was authorized by the State legislature to build an 80-mile steam railroad from Philadelphia to Columbia, 1832.
22	F	Water power in the United States began in Biddeford and Saco, Maine, with the building of sawmills operated by hydraulics; 1750.
23	S^{a}	Another step was made in aerial transportation when a spherical balloon travelled from Paris to Khartof, Russia, 1,500 miles, in 41 hours; 1913.
24	S	A charter was granted to the "New York & Erie Railroad Company" (now the Erie) which was later exploited by DAN DREW, JIM FISK and JAY GOULD; 1832.
25	M	Transportation facilities in London were augmented by the opening of the Thames Tunnel, 1,200 feet long, which took 18 years to build; 1843.
26	T^{u}	The famous "pony express" service began between St. Joseph, Mo., and California; it maintained 80 riders and 400 horses; 1860.
27	W	*Don't forget the Middle West Geographic Division Convention, opening April 24, 1929.* ¶ Long distance telephone from New York to Boston began service, 1884.
28	T^{h}	Modern transoceanic transportation began when the first steamboat, the *Savannah*, started across the Atlantic from New York for Liverpool, 1819.
29	F	A commission was appointed to lay out a national road from Cumberland, Maryland, to the Ohio River, to aid in the development of the West, 1806.
30	S^{a}	The first transoceanic news item to be transmitted by radio was published in the London *Times*, 1903.
31	S	*The first system of street lighting of historical record was in Antioch, where oil lamps were hung by ropes across the streets; 4th century.*

APRIL

1	M	The "New York and Mississippi Valley Printing Telegraph Co.," predecessors to the Western Union Telegraph Co., was founded, 1851.
2	T^{u}	STEPHEN D. FIELD filed a patent on a third-rail system for street cars; this was the forerunner of the modern third-rail system; 1879.
3	W	JAMES J. HILL opened a transportation office of his own, representing a steamboat concern; he became the world's greatest railroad builder; 1865.

"There has never been a period in our history when the need for improved means of transportation has not been pressing."
PROF. MARTIN G. GLAESER.



From a drawing by E. H. Suydam

Courtesy of the New York Edison Co.

CITADELS OF SERVICE

No. 1: *The new building of the Consolidated Gas Company of New York, at Irving Place and Fourteenth Street; one of the structures of outstanding architectural beauty in this historic section of Manhattan Island.*

Public Utilities
FORTNIGHTLY

VOL. III: No. 6 MARCH 21, 1929

The PUBLIC UTILITIES AND THE PUBLIC

IN recent months there seem to have been contrary rulings as to the duty of the Commissions to approve a consolidation or merger of utilities in the states of Maryland and New York. The Commission in the Empire State has ruled that such consolidations must be shown to be in public interest, whereas the highest court in the Free State has gone on record as ruling that the Commission must approve unless the consolidation is actually shown to be detrimental to the public interest.

As a result of this conflict of authority other states have contributed and probably will contribute their view on this important question. A recent consolidation, proceeding from Maine, indicated that the Commission of that state is inclined to follow what might be called the Maryland rule. On approving of the proposed merger the Maine Commission states:

> "The petitioners represent that the union of the various companies into one organization would result in desirable economies and could in no way be inimical to the public interests. Such mergers have been before this Commission on numerous occasions and we recognize that in the absence of reasons impelling us to a contrary view, we should respect the judgment of those who own and control such properties."
>
> *Re* Ashland Electric Light & P. Co. U–1023.

Merger with a Foreign Corporation Is Not Allowed

THE laws of the various states and rulings of the various Commissions regarding consolidation, merger, and sale of local utilities will continue to be different as long as the lack of uniformity and the jurisdiction and powers of the various State Commissions persist. In Vermont, for instance, foreign public service corporations are apparently permitted

to operate within the state, and the jurisdiction of the Vermont Commission over the security issues of such foreign corporations is very limited.

Consequently, when the Chester Water & Light Company applied recently to sell its assets to the Allied Vermont Utilities, a Delaware corporation, the Commission said:

> "After the introduction of some evidence showing that this consolidation would result in reduction of overhead, more economical management, greater operating efficiency and the like, the Commission announced it was convinced that this consolidation would bring about a public benefit but inquired why this could not be accomplished through the medium of a domestic corporation. Under General Laws 4982 we have to find that the sale of all the assets of a domestic public utility corporation will promote the general good of the state."
>
> "The record is silent as far as advancing any good reason for the sale of all the assets of these three Vermont corporations to a foreign corporation. We are of the opinion that unless it can be clearly shown that marked benefits will result from a transfer of all the assets of an operating Vermont utility corporation to a foreign corporation, the public good will best be promoted by keeping such corporations domestic."

Re Chester Water & Light Co. Nos. 1386–1388.

The Abuse of the Weekly Railway Pass

BACK in 1927 a street railway company which applied to the Indiana Commission for authority to discontinue the use of weekly passes enumerated some of the abuses resulting from their use. Evidence was submitted that a person who entered a car would hand the pass out of the window to another person who would get aboard the same car, using the same pass; it also developed that it was the practice of some of the purchasers of the weekly passes to retain old passes and when the color scheme was used again to present the old pass in an attempt to "get by" with it on account of it being the same color.

One inspector testified that on one occasion two passengers boarded a car at one corner using the same pass by passing it out of the window. At the next corner the same pass was handed out of the window to another person who boarded the car. At this time the inspector called attention to the party who held the pass and asked him how "they got away with that sort of thing." He said they did it by handing it out of the window and that it was frequently done as much as six or eight times. (*Re* Terre Haute, I. & E. Traction Co. P.U.R. 1927D, 549.) The use of the weekly pass is also a doubtful form of rate making, according to the Connecticut Commission, when applied to motor bus transportation.

These abuses occurred where the pass is not supposed to be transferable. Imagine the embarrassment of the Five Mile Beach Electric Company of New Jersey which has a weekly pass transferable and good for unlimited use. The pass is sold at the rate of $1 and the cash fare is 10 cents. When it was first placed in effect in 1925 the revenues therefrom were entirely satisfactory. There was a decrease in 1926 and again in 1927. The revenues obtained in 1928 made

such a marked decline that the company felt it necessary to apply for an increase in rates in order to pay operating expenses. It appeared that the average number of riders per pass was about twenty a month for three and one-half years.

Abuse occurred particularly among school children as there was nothing to prevent the school children from transferring the pass to one another and since children usually go to school in large groups it may be easily supposed that the abuse was wholesale. The company did not ask an increase for the pass that applied to such children but asked permission to remove the transferable feature of the pass. The New Jersey Board approved both applications of the company.

Re Five Mile Beach Electric Co.

Water Rates Are Increased Because of Additional Taxes

THE Milo Water Company has been operating since 1909 in the town of Milo, Maine, under a contract with the town providing, among other things, for the payment of a certain amount for hydrant rental and for other services to the municipality in such amount as shall equal the amount of tax, if any, assessed against the company by the town.

On April 1, 1928, however, the town of Milo assessed against the property of the water company a considerable amount of additional taxation whereupon the company petitioned the Maine Commission for a rate adjustment showing that by reason of such practice its revenues were insufficient for the company's requirements. The Commission ruled that it had jurisdiction to adjust the rates under the circumstances and pointed out that the cash payment made by the town for hydrant rental under the previous arrangement plus an amount equal to a reasonable tax assessment represented the share of the total burden which had previously been borne by the municipality on account of its fire protection service. Thereupon there was allocated to hydrant rental the entire additional revenue required by the imposition of the tax, and the relative burden imposed upon the municipality and the other customers of the company was held to be unchanged.

Milo Water Co. *v.* Itself, F. C. 769.

The Substitution of Gas-electric Motor Coaches for Steam Service

AN interesting innovation has been made by the Chicago, Burlington & Quincy Railroad Company in substituting for its steam passenger service between Palmer and Burwell, Nebraska, a gas-electric motor coach service. The plan has been approved by the Nebraska Commission. Its object was to promote certain operating economies in view of the declining business in that district.

It was shown that the overhead expense of operating the new gas-electric coach would be $1,180.24 a month as compared with $2,110.25 for operating steam train service over the

same rails. The new equipment is a 75-foot coach with a capacity of thirty to thirty-five passengers and a mail and baggage compartment. Although the approval was made for an experimental period of ninety days, it was pointed out that in previous substitutions of a like character, the Commission had not received a single written complaint. It further stated:

> "The Commission is of the opinion that where economies can be practiced without discommoding the public the railroad company should not only be permitted, but be required to practice them, as an uneconomic waste should not be tolerated as in the final analysis other classes of service must make up the loss in increased charges for service that the public has to have. Railroad companies do not create value, they sell service for value and if they furnish service that the public is not patronizing, it is obvious that the service is being furnished at a loss and this loss has to be made up from some other source."

Re Chicago, B. & Q. R. Co. Application No. 7560.

When Does a "Rural" Customer Become an "Urban" Customer?

A NUMBER of electric consumers who reside in the unincorporated village of Rosemond, Illinois, filed formal complaint with the Commission of that state that the Central Illinois Public Service Company had refused to extend service to them unless they paid the construction cost of the extension. It was said to be the policy of the company as approved by the Commission to make rural consumers pay for this construction or else do it themselves when urban consumers were not so charged. In dismissing the complaint and sustaining the company's position, the Commission said:

> "The Commission recognizes that in many communities in Illinois, whether incorporated or unincorporated, electric public utilities may and do experience difficulty in deciding definitely those customers that should be classified rural instead of urban. It is not unreasonable to assume that there are many conditions in the state similar to this case, where under a strict interpretation of rate schedules, certain existing customers should be classified other than now classified. It appears, therefore, that each individual case as it is brought to the attention of the Commission, should be decided on its individual merits, using those facts available as a basis."

Scott *v.* Central Illinois Pub. Service Co. No. 18446.

A Street Railway Is Not a "Railroad" under the Ohio Statute

THERE is a statute in Ohio which provides that a company operating a railroad in that state may demand and receive for transportation of passengers on its line a rate not exceeding three cents a mile.

Recently the Cleveland Southwestern Railway & Light Company made an application to the Ohio Commission for increased fares to attain a maximum of 3.6 cents per mile. The applicant presented convincing evidence in support of its contention that its present fares were insufficient to provide a sufficient revenue to meet and pay the cost of operation, neces-

sary maintenance, taxes, and other expenses, and reasonable return on its property.

The Commission agreed that unless some immediate relief was granted to the electric interurban transportation company the withholding of the right to collect increased fares and charges would merely hasten the abandonment of the public service companies remaining in business. The increase was allowed notwithstanding the statute, in view of a decision of the state supreme court distinguishing between street railways and railroad companies for the purposes of rate making, thereby taking the applicant out of the operation of the statute.

Re Cleveland, S. W. & Columbus R. Co. Ex Parte Proceeding No. 20.

How Much Revenue Is Required for New Extensions?

THE question of just what amount of prospective return is necessary to warrant the extension of an electric company is often difficult to decide. The Connecticut Commission has ruled that 20 per cent gross return on the cost of a proposed extension as required by a company in that state was not unreasonable but rather less than the percentage usually asked by electric companies for extensions into new territory, and the willingness of the company to be content with such an allowance was said to be commendable. The Commission further stated:

> "The Commission has not heretofore prescribed any definite policy or rule in determining the conditions upon which extensions of electric service should be made into undeveloped or rural territory, where it appears that the desired extension cannot pay the cost of operation at regular rates and afford the company a reasonable return on the investment involved. Each extension has been determined upon its own facts and merits.
>
> "Different plans have been adopted in making such extensions, some approved by the Commission, and some by mutual agreement between the company and the prospective patrons, but all involving some additional payment over and above the regular rates. In some cases cash or equivalent contributions have been made toward the cost of constructing the line, the patrons then receiving the service at regular rates; in other cases a guarantee that the company will receive an annual gross revenue of at least a stated amount for a term of years; and in still other cases an increased rate for the customers along the extension, or a combination of increased rate and guarantee whereby the company is assured of at least a stated amount of annual gross revenue for a term of years, etc. Certain companies have adopted rules pertaining to such extensions, some companies establishing a predetermined fixed charge per customer per month for each 100 feet of extension in excess of the ordinary free extension service, irrespective of the total cost of the extension, while other companies have established a predetermined fixed charge per customer per mile, the amount depending upon the number of customers per mile and irrespective of the cost of the extension. It is difficult to adopt any fixed plan which will meet conditions in every case."

Re Meyer, Docket No. 5231.

Depreciation May Be Computed on the Original Cost Basis

THE question of whether annual depreciation should be estimated upon original cost of utility property or based upon present-day prices continues to be a bone of contention between the utilities and the Commissions. In a fairly recent application of an Illinois telephone company for increased rates, the engineering staff of the Commission based its annual accruing depreciation upon the estimated original cost of the property. The amount set aside by the company, however, was sufficient to replace the property at present prices.

The Commission said that it had in the past accepted the original cost as the proper basis for determining the annual accruing depreciation and such principle would be adhered to in the current case. It was further stated:

> "It is not the purpose of the depreciation reserve to make capital but rather to perpetuate the capital actually invested."

Re Vermont Teleph. & Exchange Co. No. 18221.

Water Rates Are Set Aside as Discriminatory

THE Spring Brook Water Supply Company, operating in the city of Wilkes-Barre, Pennsylvania, and a number of surrounding municipalities, was incorporated in 1884. Not far away the Scranton Gas & Water Company, operating in the city of Scranton and vicinity, was incorporated in 1854. Each of these companies had, under the laws of Pennsylvania, absorbed by merger a number of other water companies that had been rendering service in that area. Rate discrepancies between the schedules of the two companies became so marked and the service areas of the two companies was so close that a consolidation was effected in order to avoid wasteful competition.

On May 29, 1928 the merged and reorganized Scranton-Spring Brook Water Service Company announced a new schedule of rates applicable throughout the combined system. Immediately a strenuous protest and objection was made by citizens and municipalities affected. The Pennsylvania Commission after a consideration of facts was convinced that it would not be just and reasonable to permit the company to exercise its right to collect the new rates. Examination of the tariffs led the Commission to the conclusion that the rates were discriminatory and preferential as between the classes of consumers. The obvious objection was that too large a burden of the increased rates could be placed upon domestic consumers as against users of water in larger quantities. Therefore, notwithstanding the fact that no finding as to the value of properties was made, the Commission suspended the rate and ordered a reduced schedule to be placed in effect pending further proceedings.

Scranton *v.* Scranton-Spring Brook Water Service Co. Complaint Docket Nos. 7652, et al.

The Cost of Toll Business in Making Telephone Valuations

IN setting up figures as to the value of its property and amount of its revenues, the Middle States Telephone Company, in a rate proceeding, included only local exchange property and omitted from consideration the cost of all toll lines. The engineering staff of the Illinois Commission, on the other hand, included in its valuation the cost of all toll lines and in its statement of operating revenues included therein the entire amount of toll revenue earned by the company on messages transmitted over the lines included in the valuation.

There was also included commissions on tolls transmitted over connecting company lines. The company had omitted from its consideration part of its toll revenues, the amount included in its statement of operating revenue being commission received from connected companies, and 25 per cent of the toll originating on its own lines. The evidence in the record, as pointed out to the Commission, however, showed that in both cases—that is, in the exhibits presented by the company and in those presented by the engineering staff—the entire cost of operation, maintenance, and necessary accruing depreciation for replacement of the toll lines when they should reach the end of their useful life were included in the operating expenses of the exchanges involved.

The Illinois Commission in its findings of value included all toll property and decided also that all toll revenue should be included in its estimation of operating revenues.

Re Middle States Teleph. Co. No. 18616.

Percentage of Water Revenue from Fire Service

MUNICIPAL fire protection is no different from other water service. It is generally considered differently in the allocation of the cost of service. It has been held that interest and depreciation on municipal water works might be apportioned to public fire and protection service on the basis of the per cent of plant investment necessary for such service.

Applying this principle to private water utilities frequently involves the more delicate question of allocation. Percentages varying from 10 to 30 per cent have been known and this wide variation is due to local conditions. In a large and thickly settled city where the cost of fire protection is comparatively small in comparison with the number of domestic customers, the percentage is likely to be much smaller than in a sparsely settled district with a fire plug for every few houses.

In adjusting the rates of the New Jersey Water Company, the New Jersey Board decided on 12½ per cent as the proper proportion of the total revenue to be collected for fire service in each division served by the company. The Board stated:

> "In several cases detail studies have been made by us to determine the proper percentage of total revenue which should be allocated to fire service. This has been found to vary from about 12½ per cent for the larger companies to as high as 25 per cent and even 30 per cent for smaller

companies. In this case, it is our opinion that about 12½ per cent is the proper proportion of total revenue to be collected from fire service in each division."

Re New Jersey Water Co.

A Customer Must Establish His Credit with Utility

E. C. Riegel of Washington, Director of the Consumers Guild of that city, has been the moving figure in a number of cases before the Public Utilities Commission of the District of Columbia regarding the practices of gas, electric and telephone utilities in requiring deposits from consumers before connecting service in the Capital city. It is apparently the opinion of Mr. Riegel and the organization of which he is an officer, that inasmuch as uncollectible accounts are ultimately paid for by the consumers rather than by the utilities, it is, therefore, a matter between the consumers themselves, and the utilities have no right to make regulations concerning the restriction or discontinuance of service because of questionable credit.

Mr. Riegel requested service from the Washington Gas Light Company and the Potomac Electric Power Company, and the Chesapeake & Potomac Telephone Company. Gas and electric service was accordingly installed in his apartment but upon his refusal to answer questions and to make a deposit guaranteeing payment of his bill, the service was disconnected. The telephone company refused to install an instrument upon Mr. Riegel's failure to make a deposit or to give any references.

The Commission ruled that the action of the various utilities in refusing service to Mr. Riegel upon his failure to answer questions that were merely designed to establish his own credit or to pay a deposit in lieu thereof, was not unreasonable. The opinion states:

> "Losses due to uncollectible bills are treated as a deduction in determining the amount available to pay a return on the value of the property of utilities; consequently, those who pay their bills, in effect, also pay the bills of those who fail to pay. It is, therefore, in the public interest that losses on bad accounts by utilities be held at a minimum. Guarantee against any such losses is only provided by full prepayment, but in the case of metered or measured service such prepayment is difficult to carry into effect and would be more of an inconvenience than the payment of a deposit as a condition to giving service."

Riegel *v.* Washington Gas Light Co. Order No. 741, Formal Case No. 22.

A Telephone Company Has a Right to Adopt Credit Rules

The University School Exchange of Norman, Oklahoma, recently filed a complaint with the Oklahoma Commission against the practice of the Southwestern Bell Telephone Company in requiring $25 deposits before permitting service; this requirement was made for the alleged purpose of securing payment of long-distance bills. The company explained that it was its custom to make such requirements in cases of patrons

whose credit was questionable, and although the complaining corporation had always paid its bills, the telephone company refused it further long distance credit because its president and manager had failed to pay his bill assessed against his residence telephone. The company made other investigations of the University School Exchange and decided that its credit was not any more secure than that of its president and manager. The Commission, in dismissing the complaint, held that no discrimination had been practiced against the complainant and that the telephone company had a right to make and enforce reasonable rules and regulations concerning the extension of credit to its patrons, and has the right to determine to whom it should extend credit within reasonable limitations, and where extension of credit had been abused, to require reasonable security for the payment of its bills before extending credit.

University School Exchange *v.* Southwestern Bell Teleph. Co. Cause No. 9047, Order No. 4576.

"Book Cost" as a Factor in Making Valuation of Natural Gas Leaseholds

THE Logan Gas Company of Ohio continues to ask for a market value basis of valuation of its leasehold property, whereas the Commission of that state has reiterated its previous position that book cost to the company of such asset is the only fair means of valuing the property. The Commission observed that the company would be allowed the reasonable rental charges for the possession of the leaseholds which are used and useful in the furnishing of its public utility service, and there is no warrant in law for a duplicate allowance of this charge in the guise of a return on the value of them. The Commission explained:

> "The company, already imposing upon the public the rental charges, as an operating expense, may not ask that the public pay to it a second rental, as a return, for the use of the same property. Again, the testimony which was adduced in the hearing on the protests to the tentative valuation . . . indicates that some gas properties, including some leaseholds, have changed hands in the last few years. These isolated transactions do not convince the Commission that there is any general market for gas leaseholds. Even presuming, for the purposes of this case, that such a general market did exist, the Commission is forced to conclude, after a careful analysis of the transcript, that no market value has been shown which can, with reasonableness, be accepted for inclusion within a rate base. The personal opinions of the witnesses suggest only speculative amounts which are bottomed on nothing which is tangible or sound. It is admitted by practically all of the witnesses in this matter that even though these properties were to change hands, the consideration is one which must fluctuate according to the negotiations of the parties in interest."

Re Logan Gas Co. Advanced Utility Rate Proceedings Nos. 189–192.

Three New Amendments to Standards for Gas Service

THE Oklahoma Commission has approved of three amendments to its rules and regulations that prescribe standards for gas service in that state.

The first amendment permits the gas utilities to require a gas deposit of one-eighth of the estimated annual bill of each domestic consumer, provided that in no case the deposit should exceed $2 a room, but a minimum deposit of $5 per consumer might be required.

The second amendment provides for a payment of the legal rate of interest in the absence of contract in the state of Oklahoma which is 6 per cent on the deposit; it was decided that this rate would be more constant than the banking current deposit rate.

The third amendment entitles a prospective consumer to a free extension of main, not less than one-hundred feet, exclusive of streets, alleys and rights-of-way.

Re Regulations Prescribing Standards For Gas Service, Cause No. 8886, Order No. 4570.

A New Method of Measuring Natural Gas Pressure Is Approved

UP until a few weeks ago the rules and regulations of the Oklahoma Commission required a gauge of the volume and rock pressure of gas and all wells in that state to be taken by what is known as the "open flow test." By this method the well is opened for a short period of time until the shut-in pressure is released and until the natural flow of gas is coming from such well, thereupon a meter is placed at the mouth and the volume of gas is determined by the reading on the meter.

The Magnolia Petroleum Company lately applied for a change in this method, stating that it was wasteful and expensive for the producers and that such gas used in the testing was an entire and complete loss that ran into many dollars. The applicant introduced testimony showing that it had made certain tests of another and different method of determining volume and rock pressure by what is known as the "shut-in test," which is taken by reading the pressure as shown by a fifty-inch water or mercury column and a calibrated one hundred pound spring gauge. Month to month shut-in pressure readings were taken and compared with the original shut-in pressure readings taken when the well was brought in. The difference between the latest shut-in pressure reading and the original shut-in pressure reading represents the amount of shut-in pressure decline, and this decline in pounds per square inch is converted into percentage of the original shut-in pressure reading. The Commission approved of the change in a limited area for experimental purposes.

Re Magnolia Petroleum Co. Cause No. 9081, Order No. 4562.

Some Practical Considerations that Govern Extensions of Electrical Service

EXTENSION of electric service is an unquestionable convenience for any community, whether urban or suburban. Likewise in modern times it would seem to be a necessity, but public convenience and necessity alone cannot be the chief factor in determining whether a company should be required to build an extension to adjacent territory unless it is measured in dollars and cents; that is to say, unless the people are willing to pay a reasonable return to the company for its investment in bringing power to them.

In denying a petition of certain citizens in Chaffee and Embden, North Dakota for electric service from the transmisison line of the Otter Tail Power Company, the North Dakota Commission stated:

> "If the only question involved in this proceeding was as to whether public convenience and necessity would be subserved by the extension of the Otter Tail Power Company's transmission line to these villages, our task would be easy, for there is no question but that the villages are not now being adequately served. However, the Board must further take into consideration, among other matters, 'the amount of revenue likely to be derived therefrom and the prospect of a reasonable return to the utility upon the value of the extension,' and the Commission is further charged with the duty of fixing reasonable rates for such service."

Re Chaffee, Cases Nos. 2871, 2872.

Why an Injunction Against the Discontinuance of Phone Service Was Refused

WILLIAM H. Surratt, a Baltimore lawyer, had some dispute with the Chesapeake & Potomac Telephone Company of that city concerning the amount of his bill, which the company said was $77.89. Mr. Surratt, however, was of the opinion that it should not be more than $7.45. Since the parties could come to no agreement, the company recently proceeded to discontinue Mr. Surratt's service whereupon Mr. Surratt entered a bill for an injunction in the circuit court of Baltimore City to restrain the company from discontinuing the service. That court refused, and its decree was sustained by the court of appeals of Maryland.

Judge Adkins, giving the opinion of the higher court, ruled that the allegation in the bill that an account rendered by a telephone company "is inaccurate and grossly excessive," together with an offer to pay the amount admitted to be due or to adjust the account "and to pay such sum of money as would reasonably and fairly represent the proper charges for the services rendered by the defendant," was insufficient to support the bill for an injunction to restrain the company. The chief fault pointed out by the court was that the bill failed to subscribe any reason for such a wide discrepancy in the figures of the two parties.

Surratt *v.* Chesapeake & P. Teleph. Co. No. 96.

The FEDERAL MENTOR

FOREWORD

UNTIL February 9, 1925, the activities of the Federal Trade Commission attracted but slight attention from business men. On that date the U. S. Senate asked the Commission for information about one of our largest corporations; the report of that body was followed by Senate Resolution No. 83, proposed by Senator Thomas J. Walsh of Montana, for the appointment of a Special Committee of the Senate "to inquire into the public utility corporations supplying electrical energy or natural or artificial gas." This investigation, however, instead of being entrusted to a Senate Committee, was turned over to the Federal Trade Commission. From that time the work, plans and methods of the Commission became matters of importance to the public utilities throughout the country. This article tells what the Commission has done, is doing and is proposing to do toward the Federal regulation of private business enterprise.

BY WORTHY P. STERNS, PH.D.
LATE OF THE ECONOMIC DIVISION, FEDERAL TRADE COMMISSION

FOR twenty years state regulation of public utilities has been recognized as imperative. For nearly that long the utilities have appreciated its practical advantages to themselves, as well as to the public.

For a time activities of the Federal Government in this field continued to be a matter of no interest to practical men. Then, on February 9, 1925, the Senate asked the Federal Trade Commission for information about the General Electric Company. A report was made and printed as a Senate document. It presented facts in regard to electrical utilities to which even United States Senators had not previously given serious consideration. As a natural consequence, when Senator Thomas J. Walsh of Montana persuaded the Senate that further knowledge concerning public utilities was essential, it turned again to this tried and experienced office of information. And now, full and accurate acquaintance with all essential facts bearing on the Federal Trade Commission and its work is of prime practical importance to every public utility executive in the United States.

AS a matter of fact, Federal influence in the field of private enterprise is no new thing. Carrying the mails has always been a Government monopoly. Federal bank legislation has always exercised a controlling influence in the field of credit. The Central Government undertook the protection of business from unfair

THE FEDERAL TRADE COMMISSION: What it is, what it is doing and how it is doing it—including its investigation of the methods of electric and gas companies.

transportation charges in 1887. In 1890 the Anti-trust Act initiated a campaign against monopolistic control and agreements in unreasonable restraint of trade. The comprehensive reports of the Industrial Commission about 1900, left no doubt as to the increasing power of monopolistic organization. It was clear that the public interest required a permanent office of industrial investigation.

To meet this situation the Bureau of Corporations was organized in 1903. Its reports on conditions in the petroleum industry were published in 1906 and 1907. In 1909 it reported on the combination in the tobacco industry. In 1911 the dissolution of these two combinations was decreed by the United States Supreme Court. These decisions made it clear that with proper presentation of the facts to the courts, there need be no fear of monopolistic control of industry in the United States. At once there developed a new point of view in regard to the whole matter. Business was beginning to see that it must adapt itself to the established law, and to appreciate more fully the advantages to be obtained from a Government agency that would collect the information needed to enable it to avoid litigation in its development of mass production. And public opinion, reassured as to security from monopolistic oppression, was ready for the increased co-operation between government and private enterprise initiated by the passage of the Federal Reserve, and Federal Trade Commission Acts.

THE Federal Trade Commission was established by the Act of September 26, 1914. The act had two distinct and definite purposes:

First; to continue, extend, and perfect the work that was being done by the Bureau of Corporations as contact agent of Congress and of the President, in their constitutional duty of regulating interstate commerce;

Second; to condemn definitely all forms of unfair competition in interstate commerce, and to establish an agency that would exercise a direct controlling influence over competitive methods, having in view the final suppression of all unfair practices.

The act states quite definitely what was considered necessary as a foundation for safe and constructive interstate commerce regulation. The Commission was to classify all corporations subject to Federal regulation, except banks and common carriers; require annual and special reports about their organization, business, conduct, practices, management, and

interrelations; publish such information (except trade secrets), if of public interest; test the results from anti-trust decrees, and at its own discretion publish its findings; investigate alleged Anti-trust Law offenses for either house of Congress or the President; co-operate with the Attorney General in assisting corporations to bring their organizations into conformity with Anti-trust Law; investigate conditions affecting foreign trade; and recommend additional legislation.

The Commission has, with very few exceptions, performed these important duties, so far as it has been practicably possible for it to perform them, through its economic division. This division originally was practically the old Bureau of Corporations taken over intact.

EVEN more definitely the act attacks its second purpose—declaring all unfair methods of competition in commerce that is subject to Federal regulation unlawful, and directing the Commission to prevent their use. Procedure for determining whether questionable competitive methods are actually unfair is prescribed in the act. Parties found using unfair methods are ordered to desist therefrom. Appeals for or against the enforcement of such orders go to a circuit court of appeals of the United States. The jurisdiction of such court to enforce, set aside, or modify orders of the Commission is exclusive, and final except that it is subject to review on writ of certiorari, by the supreme court. The procedure throughout is fully prescribed in the act. The Commission's legal division has been its chief instrument in carrying out this part of its work.

Support of the Commission's activities by the courts, and complete co-operation from other government offices were fully provided for in the act. Comprehensive powers for the performance of its duties were granted the Commission, and were supported by appropriate fines. The rights of private enterprise were also carefully guarded. Especially heavy penalties were provided for the unauthorized publication of information by employees.

THE Federal Trade Commission's activities, however, are not limited to those prescribed in the Federal Trade Commission Act. The Clayton Act of October 15, 1914, authorized it to prevent:

1. Price discrimination, the effect of which would be "to substantially lessen competition or tend to create a monopoly;"

2. Sales contracts that prohibited the handling of competitive products, where the effect would be "to substantially lessen competition or tend to create a monopoly;"

3. The purchase by a corporation of share capital in another corporation where the effect would be to lessen competition between the two companies or would tend to create a monopoly in any line of commerce;

4. The election of one man as director in any two corporations that were subject to the Commission's supervision if either has net assets in excess of $1,000,000, and if elimination of competition between them would violate any Anti-trust Law.

The Export Trade Act of April 10, 1918, authorized the organization of export trade associations free from certain Anti-trust Law limitations. Such associations, however, are under the supervision of the Federal Trade Commission, to prevent the development of unfair methods of competition, or restraint of trade within the United States. The associations are subject to heavy fines if requisite information is not promptly furnished the Commission. The Commission is authorized to co-operate with the associations in readjustments enabling them to comply with the law before referring such cases to the Attorney General.

THE Commission has been at work under the instruction from Congress outlined above, for fourteen years. Nineteen men have tested their ability as Commissioners during this period. Their average length of service, excluding those now in office, has been less than four years. The continuity in office which where tried in the State Commissions has been so advantageous, evidently has not been attained. The five Commissioners are each paid $10,000 a year. Annual salaries of the 344 employees on the roll June 30, 1928, amounted to $868,980. Practically a third of the employees are engaged in professional work that requires special expert qualification and training. Many others, in line for promotion to these positions, are in preparation to fill them satisfactorily. Annual appropriations for the Commission in recent years have amounted in round numbers to a million dollars.

THE extent and importance of the work done by the economic division is indicated by the following list of reports made in response to requests by Congress and the President, and on the Commission's own motion:

Anthracite coal; bituminous coal; book paper; bread; calcium arsenate; commercial bribery; commercial feeds; co-operation in American export trade; co-operation in foreign countries; co-operative marketing; cotton; cotton seed; cotton yarn; electric power; export grain; farm implements; fertilizers; flags; flour milling; food; gasoline; grain trade; house furnishings; leather and shoes; live stock; lumber; meat packing; milk; national wealth; newsprint paper; open price associations; petroleum; pipe lines; radio; raisins; resale price maintenance; shoes; sisal hemp; stock dividends; sugar; tobacco; trade and traffic in South America; wartime costs; wheat; woolen rags.

In the work on unfair methods of competition an average of a thousand inquiries a year have been instituted by the Commission. These inquiries have resulted in about 900 orders to cease and desist from unfair methods of competition. While this reveals a regrettable condition as to business methods, the situation cannot be called discouraging. It is interesting to note that the courts have set aside less than four per cent of the orders issued by the Commission.

IN a recent annual report the Commission announced, in effect, that its purpose was the promotion of "the best interest of the public as a whole" by "Helping business to help itself."

For example, through trade practice conferences different industries are aided in making their own rules of business conduct. In the fiscal year 1928, the trade practice conference division held conferences for the following industries:

Cottonseed oil mills; edible oils; flat glass; furs; golf balls; heavy sheet glass; hickory handles; mill work; motion pictures; paints; periodicals; rebuilt typewriters; shirting fabrics; varnishes and lacquers; wax paper.

In these conferences the Commission gives to the business world an effective means of self regulation, thus supplementing the work industry was already undertaking for itself. Respect for power to enforce resting in a disinterested governmental body is such that resort to that power has been necessary for less than five per cent of the rules so far adopted in the trade practice conferences.

The law, however, specifically directs the Commission to prevent the use of unfair methods of competition on interstate and foreign commerce. Furthermore, where the interest of the public is involved, its procedure is prescribed. On this point the Commission holds that its work is supplementary to other remedial processes available to decent enterprise; that is, that the public interest, in the meaning of the act, is not involved in purely private controversies, if the courts afford a feasible agency for the suppression of specific undesirable competitive practices. In the words of the Commission itself:

> "The end and object of all proceedings of the Federal Trade Commission is to end all unfair methods of competition or other violations of the law of which it is given jurisdiction. The law provides for the issuance of a complaint and a trial as procedure for the accomplishment of this end. But it is also provided that this procedure shall be had only when it shall be deemed to be in the public interest, plainly giving the Commission a judicial discretion to be exercised in the particular case."

In its efforts to suppress and assist in the suppression of unfair competitive practices in compliance with the specific provision of the act, an elaborate organization has been built up by the Commission. The advance guard in this offensive in behalf of decent business is the office of the chief examiner.

A letter from the victim of unfair methods—even a newspaper clipping forwarded by some public spirited individual—may put this agency into action. Many cases develop from the Commission's own investigations. The chief examiners office is able to handle more and more of these cases on the basis of similar problems already solved. Those that require special investigation were reduced from 50 to 20 per cent of the number brought to the chief examiner's attention between 1921 and 1928. Necessary investigation is expedited by branch offices in New York city, Chicago, and San Francisco.

Cases not disposed of by the chief examiner's office usually go to the board of review, composed of five lawyers. One member of this board, after examination of the complete record in a case, presents his report to the entire board. If further in-

formation is desired it is obtained by the chief examiner's office. Before formal complaint against anyone is recommended he is allowed to appear before the board informally, if such course is not clearly against the public interest. Finally the board reports to the Commission either:

1. That the case be dismissed for lack of proof, or lack of jurisdiction;

2. That it be dismissed on agreement as to facts and a pledge to stop the unlawful practice; or

3. That a formal complaint alleging unfair methods of competition be issued.

Except in especially fraudulent and vicious cases, the Commission will then direct the trial examiner's division to undertake a settlement by "stipulation." That is, the whole matter is again taken up informally with the respondent and if he so desires, where such course will fully protect the public interest, a stipulation is prepared which sets forth the respondent's admission of the unlawful character of certain methods and his voluntary agreement to cease and desist forever from such practices. The result is an immediate cessation of the unfair method and a great saving of the costs that are involved in formal proceedings before the Commission.

Seventy-five complaints were settled by stipulation in the fiscal year 1928. While probably not as broadly advantageous as the use of trade practice conference decisions, this procedure by stipulation is bringing about in its narrower field and by similar methods, a desirable advance in control through effective co-operation.

SOME cases, however, require formal procedure. In these there is a trial, with a trial examiner presiding and an attorney appearing for the Commission. The resulting report upon the facts, with exceptions thereto by attorneys for the Commission and the respondent, goes to the Commission itself for final hearing. It is thus after painstaking scrutiny with full opportunity for the respondent to appear privately and with only semi-formality, that the Commission, persuaded that public interest requires such course, issues the complaint provided as the statutory means for suppressing unfair competitive methods. With few exceptions a formal docket is now set up which, after service upon the respondent becomes a public record.

Procedure from this point on is that specifically provided in the Trade Commission Act. It provides full opportunity for the presentation of the respondent's position. The chief counsel's office takes full charge of the prosecution. Briefs are filed and the case comes before the full Commission for final argument. If the complaint is sustained the Commission makes a full report of the facts and the law, and issues an order requiring the respondent to cease and desist from the unlawful acts set forth.

DURING the fiscal year 1928, sixty cases were brought before the Commission under this procedure. Others were already on the docket. Fifty-five were disposed of and 42 were pending on July 1, 1928. During the fourteen years of the Commission's existence, 1,405 cases, or an average or about a hundred a

year, have been thus disposed of.

Forty-seven orders to cease and desist from objectionable practices were issued during the fiscal year 1928. Practically three out of every four of these cases involve false and misleading advertising.

Misbranding, second in frequency, was found in twelve cases.

It was found necessary to dispose of thirty other forms of unfair competition. Among the more important of these, in the order of frequency, were misrepresentation in the sale of stock, resale price maintenance, passing off one article as another, falsely claiming to be a manufacturer, coercion, and misrepresentation. None of the other methods condemned occurred more than three times, 15 of them only once.

OF prime importance to the public were orders issued by the Commission to eight stock-selling concerns, that they must desist from further misleading advertisement as to the "promotion, organization, character, history, resources, assets, production, earnings, income, dividends, progress, or prospects of any corporation, association, or partnership." Of far reaching importance also, were orders to certain associations to desist from enumerated practices which tend to establish uniform prices in violation of the Anti-trust Laws.

Up to June 30, 1928, the Commission had issued 857 orders to cease and desist. Sixty-five of these orders have been passed upon by circuit and supreme courts. In these cases 34 decisions were for the Commission and 31 against. Of petitions by the Commission for court enforcement of its orders only two have been finally denied.

THE work connected with the administration of the Webb Act and the investigation of "trade conditions in and with foreign countries where associations, combinations, or practices of manufacturers, merchants, or traders, or other conditions may affect the foreign trade of the United States," is carried on by the export trade section.

Under the Webb Act 56 export associations filed reports with the Commission during the first six months of 1928. Six new associations were formed during the fiscal year 1928. Important new associations are the Steel Export Association of America formed by the United States Steel Products Company and the Bethlehem Steel Export Corporation, and the Standard Oil Export Association formed by the Standard Oil Company of New Jersey and other companies. Congress now has before it bills providing anti-trust exemption for import associations handling products not made or grown in substantial quantities in the United States.

BECAUSE of the direct authority of the Commission in regard to competitive methods its procedure in that field has been covered in some detail. The broader and more fundamental work of the Commission in which it serves as contact agent of the President, and of Congress in their Constitutional duty of regulating interstate commerce, cannot be so fully reviewed. The vital importance of

these activities was recently illustrated, by the constructive recommendations contained in the Commission's report on "Open Price Associations." Their nation-wide significance is indicated by the list of investigations already given. From the beginning of the Commission's work the economic division has taken over the functions of the old bureau of corporations. Those functions included ascertaining and interpreting facts relating to the organization, conduct, and results of commercial enterprises, and in recommending constructive or remedial legislative action. The division's work has included practically all of the thirty-seven inquiries carried on by direction of the Senate; the eight requested by the House of Representatives; the five made for the President; and the sixteen initiated by the Commission itself. It is impossible to put into the narrow limits of a magazine article a reasonably fair appreciation of these reports as a constructive factor in the development of the Nation's business.

THE urgency of and the extent of the public interest involved in the problems currently under investigation by the economic division is illustrated by the following list of topics studied during the fiscal year 1928.

Electric power; petroleum prices; stock dividends; bread, flour, and grain; power and gas utilities; resale price maintenance; open price associations; lumber trade associations; price bases; Dupont investments; chain stores; blue-sky securities.

The report on electric power sent to the Senate on January 12, 1928 showed that a few concerns dominated the supply of equipment and electrical supplies that are essential to the production and distribution of electric energy. These concerns owe their position to their financial resources, control of distribution, and efficiency of service. No evidence of illegal price control was developed. Possible development of competition in the domestic field, and also from other countries, may have been curbed to some extent through joint ownership of patents by domestic and foreign corporations. This report also reviewed the development of centralized management and state regulation in recent years, and commented on the work of the more important trade associations in the electric power industry.

The above brief glance at the contents of the report on electric power indicates the general character of the reports prepared by the economic division.

GROWING appreciation of the importance of the legal point of view in these surveys which are made to uncover information essential to the satisfactory regulation of interstate commerce may lead to the more general joint use of the legal and economic division in these investigations. Such use is illustrated in the current inquiry under Senate Resolution 83, (February 15, 1928) calling for information as to the financial development and structure of the gas and electric power industries, with all pertinent facts as to their management; and also, as to the efforts of the electric industry to influence opinion in regard to public ownership of electric plants and facilities.

The Commission's work under the first head is being pushed by the economic division. Under the second head hearings before the present chairman of the Commission have been prepared by the legal division, and the evidence is being presented by the chief counsel.

These hearings have been participated in to such an extent by public utility men, and their current news interest has been so great that comment in this article about the information developed in regard to the publicity activities of electric power and gas organizations is unnecessary. The very comprehensive and probably much more important data in process of collection by the economic division is less spectacular in character and consequently will not have so great circulation through the press. Its full extent and importance cannot be known, of course, until the survey is completed and the Commission's report is published.

It is already known, however, that the inquiry is covering 2457 companies whose invested capital is estimated at $14,000,000,000. Seventy-two of these concerns are important holding companies. Of the 2,312 controlled operating companies, 1,442 are gas and power companies and 870 are non-public utility companies. There are also 73 independently operated gas and electric companies.

Information as to capitalization and income is being obtained from all companies. Operating companies are reporting their revenues showing payments by the different important groups of consumers, also quite fully itemized operating expenditures. Full details in regard to the selling of security issues is being obtained from the important companies.

The recently published summary of the Commission's report on "Open Price Associations" contains matter of special significance to every form of business organization throughout the country. According to that report public welfare will be best served by clearer exposition of the existing powers of Federal Government agencies coming into contact with private enterprise, and by a further increase in those powers. It was specifically recommended;

First; that compulsory powers should be granted that would make feasible the collection of statistical data on which practically useful monthly comparisons of conditions in different fields of business enterprise could be based;

Second; that trade associations should be licensed, not only to give a definite and established status to these essential instrumentalities of modern business, but also to provide in a regular and systematic way, a fund of information necessary to intelligent governmental action in regulation of, and also in co-operation with, private enterprise.

"EDUCATION DESTROYS COURAGE. IT TEACHES THE STUDENT TO THINK OUT PROBLEMS, TO PONDER SITUATIONS. THIS IS A DETRIMENT IN BUSINESS WHERE ACTION AND QUICK THINKING ARE REQUISITES." —DR. HAROLD F. CLARK, OF TEACHERS COLLEGE, COLUMBIA UNIVERSITY.

Remarkable Remarks

T. O. KENNEDY
of the Ohio Public Service Company of Cleveland.

"It is the customer with the small bills who kicks."

GIFFORD PINCHOT
Ex-Governor of Pennsylvania.

"I don't advocate public ownership (of electric utilities), but I do advocate stringent public control."

A former employee of a large electrical corporation, in answer to the question why he left.

"I got out as soon as I learned that the big companies had agreed not to hire each other's men."

ROGER W. BABSON
Economist and statistician.

"In the past six or seven years rate cuts in the United States by electric companies have totaled more than $500,000,000."

SAMUEL H. CADY
General Solicitor, Chicago and North Western Railway Company.

"Under present day regulation, the great railway systems of this country would never have been built."

WILLIAM GREENE
President, American Federation of Labor.

"Trade unionists object to the bonus principle because it prevents the advancement of the basic wage rate and puts the increase in the form of a favor or temporary benefit."

THOMAS E. MITTEN
Chairman of the Board, Philadelphia Rapid Transit Co.

"Ultimately they (the present owners of industry) will recognize fully, as they now recognize partly, that their profits will be greater as they advance the economic welfare of their workers, and to that economic welfare employee ownership is essential."

DONALD MACKIE
President, Public Utilities Advertising Association.

"We recognize and salute the newspaper as a public utility—busy in the public service."

JOHN E. WALKER
Former Special Assistant on Taxation to the Secretary of the Treasury.

"Common carrier busses pay twenty-four times as much in special taxes as the private automobile."

WM. A. PRENDERGAST
Chairman, Public Service Commission of New York.

"If I should be asked whether the system (of regulation of public utilities by Commissions) is satisfactory in all respects, my answer would be, NO!"

HEYWOOD BROUN
Newspaper columnist.

"All cartoonists picture the capitalist as a corpulent old gentleman with dollar marks on his checkered suit. And that is not the type at all. Big business today is run by lean men with athletic shoulders, and the paunch has gone completely out of style."

MATTHEW S. SLOAN
President, the New York Edison Company.

"More than 80 million people live in homes having electric service for light and labor saving devices."

PAUL S. CLAPP
Managing Director of the National Electric Light Association.

"Each American worker in 1900 was directing 2.11 horsepower. In 1925 the average available to each worker had increased to 4.27 horsepower. The American worker directs more power than the worker of any other country."

B. C. FORBES
Editor and author

"Some small-minded politicians are never so happy as when they are abusing and harassing American giants bent on doing things on a bigger and bigger scale both at home and abroad."

FRED HOWARD
Editor, "Clay County Sun" of Nebraska.

"That text books written by practical business men should supplant those of the theorists is a happy thought for those who recognize that our educational plants are being taken farther and farther away from the things we expect of them by instructors who have no skill other than that gained by book study."

FLOYD W. PARSONS
Writer and investigator.

"No business today can expect to progress satisfactorily without appropriating a considerable percentage of its profits for extensive scientific investigations."

PRESTON S. ARKWRIGHT
President of the National Electric Light Association.

"For every dollar we spend for advertising, the customer gets many times the advantage of it himself, for it helps to increase the consumption and production, thereby reducing the cost."

D. F. CALFEE
of the Missouri Commission (in a dissenting opinion).

"It might not be economically possible for the company to earn a 7½-per cent rate of return upon the value of its property, and if so, this Commission should not assume the burden of fixing a schedule of rates which, theoretically at least, will enable it to do so. Neither courts nor Commissions can stop the operation of economic laws."

The Right to Sell Utility Service Below Cost

Two power companies are competing for business in Massachusetts. One claims the right to sell current for "production costs" as the minimum rate prescribed by law. The question is: Should the costs of distribution be included in "production costs" for this purpose? Upon the answer of the Commission depends the prices that one competitor may charge the consumer, in its effort to under-sell its rival.

By HENRY C. SPURR

In the days when Dobbin was seen on the streets more often than he now is, George ran a feed store in a small town and sold hay, oats, and bran.

Henry conducted the same sort of a place across the way. They were keen rivals in business.

Henry was anxious to get the hay trade, so he began cutting prices. He sold his hay for just what he paid for it. "I'll loose nothing by that," he thought, "and I'll be sure to get the business." Henry took no account of what it cost him to deliver the hay or what it cost to keep the store open; he did not reckon in rent and light, nor did he figure anything for his own time. "I must get this business," he said, "so I shall sell the hay for just what I pay for it."

George wondered how Henry could do business on that basis, but that depends, as we shall see, somewhat on Henry.

Now, it costs Henry something to deliver the hay. What he pays for the rent of his store and for lighting is also a part of the cost of handling the hay. His own time is presumably worth something. Therefore, when he sells the hay for what he pays for it he loses something. That should be evident. It should also be apparent that the more hay customers Henry gets on this basis, the worse he will be off, provided he cannot make this loss good in some other way.

Whether Henry can keep his business going on this theory, depends, as has been stated, upon Henry, himself. If he is willing to stand the losses from his hay business, he can keep on selling oats and bran at the same old prices and retain the patronage of his oat and bran customers. Henry can also have the satisfaction of getting a lot of hay customers away from George, by cutting prices, if Henry does not care what this costs him.

On the other hand if Henry does mind losses due to conducting his hay business at less than cost, if he wants reasonable pay for his own time, he will have to charge his oat and bran customers a little more. If he wants pay for delivering his hay, he will have to get it out of those to whom he sells oats and bran. This will be good for Henry's hay business and will be all right for Henry, himself, as long as the oat and bran customers do not object; but if they resent paying delivery charges on hay they might go over to George. In that event Henry would get a losing business at the expense of a paying one. How long Henry could stand that would depend upon his financial resources. This is the inexorable economic law governing that kind of a transaction.

SUCH a case has recently been up in Massachusetts. Henry is the Holyoke Municipal Lighting Plant, the largest of its kind in the state, and George is the Holyoke Water Power Company, a privately owned utility.

The controversy was over the question of what constitutes "production cost" of electrical plants. The real question was the right of a municipal plant to sell its current at less than actual cost.

In other words, Henry is trying to sell his hay for what he pays for it without reference to what it cost to deliver it—to say nothing of the cost of keeping the store open.

The trouble arose in the first place in this way:

Massachusetts used to have a law forbidding municipal plants to fix prices for gas or electricity without the consent of the Department of Public Utilities, at less than cost—this cost to include interest on debts and depreciation.

This law was changed in 1927 to read that prices should not be fixed at less than "production cost" without the consent of the Department.

When the suggestion was made that the Department include depreciation as part of "production cost," it was vigorously opposed by John J. Kirkpatrick, the manager of the municipal plant. Mr. Kirkpatrick said he did not object to the change provided it applied also to private utilities; but with that angle of the case we are not concerned for the moment. We are discussing Henry's economic theory.

CERTAIN statements made by Mr. Kirkpatrick are very interesting in this connection. He is reported to have said, among other things:

> "Adding interest and depreciation to production cost increases the price of gas and electricity to users in large quantities. Interest and depreciation are operating charges, and when you add these items to production cost you penalize industry. Industry must pay the bill, not the municipal plant, if you should order this paid. When municipal plants are obliged because of the change to increase the prices to mills, factories, and other large users of gas and electricity, then the privately owned gas and electric company will increase their prices. . . .
>
> "The proposed change would compel the Holyoke Municipal Plant to wipe out the three lowest steps of its power rates in its schedule A and dispense entirely with its schedule B, which is for 24-hour service. It would also prevent the sale of gas

for industrial and housekeeping purposes. In other words, it would increase its production cost of electricity more than one-half a cent a kilowatt-hour and increase its production cost of gas about 20 cents a thousand cubic feet.

"By this change the Holyoke would lose the sale of more than 4½ million kilowatt-hours a year on the three lowest steps of its schedule A. That would drive those customers away from the municipal plant. The city would lose those customers and with them it would also lose the sale of electricity used on the nine higher steps of the schedule, which amounts to nearly one-half a million kilowatt-hours, making a total loss in sale of about five million kilowatt-hours a year."

THIS would appear to be an admission that if the Holyoke Municipal Plant is required to take into consideration in fixing its rates, the costs which good business practice require to be taken into account in determining the cost of the service, it will be unable to compete with the private plant and will, therefore, lose a large part of its business; but with that we are not concerned since we are considering a mere question of economics without reference to the effect either upon the municipal or the private plant.

Mr. Kirkpatrick makes his position as to what constitutes "production cost" very clear in a signed statement in the Springfield *Union* of December 31st. He says:

"It might be helpful at this time to give an explanation of the meaning of 'production costs' and 'operating costs' of electricity. Surely, it will not be amiss. The 'uniform system of accounting,' which has been adopted by nearly every state in the Union, shows that the cost of electricity at the consumer's meter is made up of three subdivisions. The first of these is called 'cost of production.' In the cost of production is included the cost of fuel, labor, repairs, and maintenance of generating equipment and auxiliaries at the electric station. In other words, production cost means the cost of electricity at the switchboard in the station.

"The second subdivision is called 'distribution,' in which are placed charges for inspecting, testing and setting meters, maintenance of poles, lines and transformers, and all other items between the station and the consumers' premises.

"The third subdivision is called 'general or miscellaneous,' to which are charged salaries, office expense, insurance, transportation, and depreciation. The total of the three subdivisions is called 'grand total operating expense.'

"Interest charges, in the 'uniform system of accounting,' are deducted from gross income after the total of the three subdivisions has been deducted from gross revenue. That is the system of accounting now in effect for both privately-owned and publicly-owned electric plants.

The Economic Law Demands—

that if a private utility sells its service to its industrial customers for less than actual cost of production and delivery, it must make good the loss by overcharging its domestic customers—or travel the road to bankruptcy.

"Production cost is the cost of electricity at the switchboard in the electric station. Operating cost, which you seem to confuse with production cost, is the total cost of every item entering into the manufacture and distribution of electricity to the consumers' premises. Taking interest and depreciation charges out of the subdivision 'general and miscellaneous' and adding them to 'production cost' does not affect the total 'operating cost,' but does increase the 'production cost.'"

THIS may appear to be rather a complicated argument at first, but when closely examined it will be seen that Henry is here merely outlining a bookkeeping problem. He wants to sell his hay for what he pays for it, and to charge nothing for delivery or overhead expenses. He asks the Department of Public Utilities to define "production cost," which is the price the state says he may sell his hay for, as the price he buys his hay for. He says, in effect, that all authorities agree that delivery costs and other costs should not be included under the heading of "production cost."

If the Department, for the purpose of determining the price at which Henry's hay should be sold, should define "production cost" as only a part of the real cost, Henry could sell his hay at a very low price. This would enable Henry to retain a large number of customers who have been getting their hay for less than cost.

The economic question is this: Is it a sound policy to sell hay at less than its real cost?

We must not allow the economic question to be side-tracked by our interest in the bookkeeping question, which merely relates to the classification of costs in their abstract form.

THE economic rule that service cannot be supplied at less than cost to one class of consumers, without being made up by other classes, applies to private utilities as well as to municipal plants. Unless a municipal plant recoups its losses from taxation, it must make them up by overcharging other customers.

A private utility, aside from the matter of taxation, is subject to the same law. If it sells to industrial customers for less than the actual cost of production and delivery, it must make the loss good by overcharging domestic and other consumers, or travel the road to bankruptcy.

Low prices may sometimes be charged temporarily to attract business, which will ultimately benefit the whole body of ratepayers; but the general rule, adopted by the Commissions with respect to low wholesale rates, is that they may be permitted, provided they are not less than the actual cost of the service. Presumably they should be a little more, although they need not be enough more to take care of overheads and return.

The proposition which Henry, (the Holyoke Municipal Lighting Plant), is contending for may be sound from a bookkeeping standpoint, but it is unsound economically.

Such a basis of rate making would also be unsound for George, (the Holyoke Water Power Company).

Industrial plants should not be subsidized at the expense of consumers of public utility service.

It may be that the Massachusetts statutes permit this; but that does not change the economic situation.

Delinquent Customers Keep Up Operating Costs

By DAVID LAY

MR. Marcus Forsberg of New Jersey started his business career some years ago in a factory. But he could not get along with the boss; so he expressed his independence by building a factory of his own.

In due course he came into contact, and at times into conflict, with public service corporations. Sometimes he appears to have retired from the combat wholly, or partially at least, victorious. And sometimes the corporations came out on top.

Mr. Forsberg's most recent joust was with the Plainfield Union Water Company. When Mr. Forsberg built a new house, the company would not supply service unless he made a deposit of $10 to guarantee payment of bills, because the company declared he had been delinquent in his payments on previous occasions. The company managed to get the deposit; but when Mr. Forsberg received his first bill for service, which amounted to $11.97, he deducted the deposit and sent a check for the balance only. The company returned the check with a request for payment of $11.97, the full amount of the bill.

As Mr. Forsberg stood his ground, so the company started in to cut off service in the regular way—by turning off the water at the curb. As soon as the company turned the water off, Mr. Forsberg turned it on again. Four times in one day the company turned the water off, and four times in the same day Mr. Forsberg turned it on. Finally the company had to cut through the asphalt pavement in order to disconnect the service at the main.

Mr. Forsberg then complained to the Commission. The Commission held that he was wrong, and that the company was right. The Commission further observed that prompt payments of bills is essential in order to keep down the operating costs of utility companies. Reasonable rules are necessary to protect the interest of the consumers generally as well as that of the company. (Forsberg *v.* Plainfield Union Water Co. P.U.R. 1929A, 610.)

The principle that actuated Mr. Forsberg is the same old principle that actuated the young farmer who returned to his home with a smashed wagon.

"How is it John," asked his father, "that you bring the wagon home in such a condition?"

"I broke it in driving it over a stump."

"But why did you run against the stump? Couldn't you see how to drive straight?"

"I did drive straight; that's why I drove over the stump. The stump was in the middle of the road."

"Why didn't you go around it?"

"Because the stump had no right to be in the middle of the road, and I had."

"Well," was the reply, "after this you must furnish your own wagon."

One should stand up for his rights, of course—provided he is not smashing somebody else's wagon. Mr. Forsberg in driving against the water company was smashing the ratepayer's wagon. Moreover in this case he was not running the wagon against a stump that had no right to be in the road, but against an obstruction rightfully for the safety of traffic. Reasonable deposit rules and other rules designed to secure the prompt payment of bills are for the protection of the great body of consumers who pay their bills.

If Mr. Forsberg now receives service, he will have to make the deposit permitted by the rules of the Commission, and he will probably be obliged to pay a reconnection charge as well. This is also for the protection of consumers.

Mr. Forsberg's quarrel is really not with the company; it is with the other consumers.

Hon. William Klinger

Chairman of the Ohio Public Utilities Commission

HONORABLE William Klinger, who has been chairman of the Ohio Public Utilities Commission by appointment from Governor Vic Donahey since February 1926, was born September 11, 1870 on a farm in Allen county, Ohio. After attending the country schools until he was sixteen years of age, Chairman Klinger taught in the country schools for five years; he then attended the Ohio Northern University, Ada, Ohio, where he graduated in the classical course in 1894. He studied law at the Ohio Northern University in 1895 and was admitted to the bar in the same year; he afterwards took a post graduate course in law in 1896 and 1897 at Ann Arbor, Michigan.

At Lima, Ohio, in 1897, Chairman Klinger began the active practice of law, and in 1899 he was elected prosecuting attorney of Allen county. In this office he served from 1900 to 1906. In 1908 he was elected common pleas judge and served in that capacity from 1909 to 1921.

Chairman Klinger, in the last election, was the Democratic nominee for Congress from the 4th Ohio Congressional District.

In addition to the public activities of Chairman Klinger, he has been connected in a business way with the activities of his community. He has at all times been a farmer and has given considerable time to co-operative efforts. He has been president of the Farmers' Equity Union Creamery at Lima since its organization and has also been connected with the First American Bank & Trust Company, in which organization he is now a vice-president and attorney, at Lima, Ohio.

WILLIAM KLINGER

Lawyer, banker, farmer and now Chairman of the Ohio Public Utilities Commission

Business Regards a "National Water Power Policy"

FOREWORD

There are three outstanding theories about the methods of developing water power for the production of electricity in the United States:

FIRST: *there is the theory that the waters should be impounded, the power stations built, and the current generated and sold by the government, either to consumers or to private companies which will distribute it to consumers:*

SECOND: *there is the theory that the title to the water power companies should be retained by the state, and leased to private companies for development, thus always retaining ownership in the people:*

THIRD: *there is the theory that the development of water power should be left wholly to private industry, and operated under regulation by the State Commissions.*

The subject is of vital interest to industry, inasmuch as it affects the processes of obtaining power for operating mills and factories, as well as the prices that industry—and ultimately the public—must pay for this power. In this article the author points out how the business interests of the country regard the problem, and what they are doing about it.

BY WILLIAM BUTTERWORTH
PRESIDENT, CHAMBER OF COMMERCE OF THE UNITED STATES

THE Chamber of Commerce of the United States has set up a committee to study and present a report with recommendations on a "National Water Power Policy."

These recommendations may in due course, under the Chamber's procedure, be placed before its membership for a referendum vote. It is of interest to business men generally and to public utility executives especially why the National Chamber has taken this action.

The value of developing such a national water power policy will be fully appreciated. But it is not so apparent why such an organization as the National Chamber has come to inter-

est itself in the subject, despite the fact that it involves questions of national importance.

The Chamber of Commerce of the United States is an agency created and maintained by American business men as a means of self-expression. It is a federation of American business men's organizations. It is a means through which business men can act together in speeding up progress in business activity. Through the National Chamber they do this in two ways:

First, by themselves removing those obstacles to business intercourse which are of their own making:

Second, by expressing their reasoned views on the obstacles which exist,—or which are threatened,—by government action, and which from the point of view of practical experience and business judgment, do not serve to safeguard and advance the true public interest.

THE structure of the National Chamber is fitted to the consideration of only such timely and national subjects as are of general application to business and industry. Through such consideration we, as business men, aim to advance the common purposes of all industries, promote uniformity and equality in business usages and preserve economically sound contacts between business and government.

A slight examination into the "ancient customs of commerce" shows that much progress has been made already toward this higher concept of group interest. The trend in industry today is toward centralization, simplification, and standardization—a movement that is comprehended in the modern expression "rationalization of industry." In it we see the results not only of unity of action for the advancement of the common interests of business enterprise, but also a fruitful effort on the part of business to eliminate through its own initiative undesirable business practices. Business enterprise is profiting today from the tangible results of self-government prompted by the dictates of "plain justice and good faith."

IN preserving and promoting economically sound relations between business and government there is obviously a need of a clear expression representative of the interests and aims of business, especially in matters of national importance. Take for example, the general subject of taxation:

This subject concerns all business enterprise and the views of American business on tax law and administration, expressed through the National Chamber, have a real place and a real value. There are many other subjects such as transportation, that are of common interest to American business, with which governmental agencies, both Federal and state, have to deal.

One subject of outstanding importance today concerns the problem of our natural resources, including our forests, minerals, and waters. These resources have always been one of the chief sources of strength both to the nation and business; and we have prospered because we have in the main pursued wise policies in their exploration, evaluation, and utilization. The rapid development of the

western empire, the growth in our foreign commerce and the increase in our national wealth has come about in a very large degree through the latitude individual initiative has had in developing the country's resources.

Throughout the country today there exists a public consciousness of our dependence upon these resources. American business enterprise has always felt it to be its duty, as well as its privilege, to set up its combined experience and mature business judgment in regard to national policies governing their use.

Of prime importance among these natural resources is that of water power. Through the Chamber's "Natural Resources Production Department," constant thought is being given to the problems of that resource. This subject persists in keeping itself before the American public. Whether because of the interests of the politician or the engineer, the administrator of the law or the business man, the "golden rule" for utilizing this great natural resource to the best interests of the greatest number of people seems never to have been discovered, or if found, has not received nation-wide and lasting acceptance.

The water power resource itself is but little understood outside of the technical and legal professions. It is generally considered to be some great indivisible estate of the "people." In it there is indeed a large public interest, but no group of our citizens has a greater interest in water power than the business men who produce, distribute and to a large extent consume this merchantable product. Our use of water power today is almost completely in the form of electric energy; as such it is a finished product of business enterprise. The present prominence of the subject politically and legally prompts business enterprise to examine into its desires as to the policies governing the utilization of this resource and give expression to its wishes with regard thereto.

The National Chamber has already taken a position on some phases of utilization of our water resources. In the field of river improvement it has urged that the government speedily complete river improvement projects already authorized and that the Congress provide for a comprehensive system of waterways. It took an active part in formulating principles and supporting the legislation which, it is believed, will now make effective flood control on the lower Mississippi river a reality. In the field of surveys and investigations of water resources the National Chamber has urged the making of comprehensive surveys and definite plans covering schedules of priorities for waterway development and the use of waters.

The importance to the nation of developing its water power resources was recognized by the National Chamber several years ago. Under its referendum procedure (Referendum No. 24, February 1918) it became committed to the following principles which, according to the opinion of its membership, should apply to our water powers:

I. That Federal legislation to encourage the development of water powers should at once be enacted.

II. That authority to grant permits

should be vested in an administrative department or commission.

III. That the permit period should be at least fifty years, any shorter period being at the applicant's option.

IV. That tolls should attach only to use of public lands or benefits derived from headwater improvements.

V. That permittees should be entitled to acquire the right to use public lands forming only a small and incidental part of the development.

VI. That recapture be exercised only upon payment of fair and just compensation.

VII. That, if recapture is not exercised, the investment of the permittee should be adequately protected.

VIII. That rates and service should be regulated by State Commissions where the service is intrastate, with Federal regulation only where several states are directly concerned and do not agree, or where there is no State Commission.

IX. That if any jurisdiction to regulate the issuance of securities is exercised it should be solely by the state.

X. That no preference should be granted as between applicants amounting to a subsidy from the government creating unequal competition.

THE Federal Water Power Act, approved June 10, 1920 (41 Stat. 1063), became the national policy for dealing with power development, and most of the above principles are incorporated in the act. After several years of operation, the wisdom of the act as a policy of broad application may be determined with considerable certainty. In overcoming administrative difficulties of former Federal law and by providing for the protection of the investor and the public a real impulse was given to power development.

In recent years, however, new aspects of the national water power problem have arisen. The Federal government in carrying out its flood control, navigation and reclamation projects has had to deal with questions of power development. The growing importance of water supply and stream regulation has raised questions of the bounds of Federal, state and individual rights, making control and administration quite involved. And in another direction, that of joint marketing of steam and hydro power in the form of electric energy, water power policies become enmeshed with the laws and regulations applicable to electric public utilities. States are becoming more active in directing the use of their water resources. From many sources there may be heard an urge for clarification of Federal and state water power policies so as to make definite the duties, rights, and responsibilities of governmental agencies and of the operators who finance and construct the power plants and sell the power.

BECAUSE of the great dependence of American business upon adequate power supply, any policies which may be put into effect for dealing with these conditions are of real concern to business enterprise. In the opinion of the membership of the Chamber of Commerce of the United States, the time is at hand for making a broad study of the present situation as to our water powers and their development and for the formulation of policies which should now be followed in the light of experience and events since 1920.

In accordance with the Chamber's

usual procedure, the whole subject has been placed before a special committee, designated the "National Water Power Policies Committee," for comprehensive study and for recommendations upon a sound public policy intended to deal constructively with the broadened scope of power development.

The nature of the investigations which the Chamber's membership authorizes may be inferred from the practice followed in setting up committees. The members are not made up entirely of specialists in a given line, such as might be expected in engineering, legal, or financial associations. They include, in the main, men of broad business experience and detached viewpoint, together with sufficient authorities to cover the various features of the special subject under consideration. Appointments are made so as to represent a variety of industries and so as to give a voice to all sections of the country. In the results arrived at there is present the judicious, the practical and the technical viewpoints shorn of such burdensome detail as would obscure underlying policies from the average business man.

EACH committee's recommendations are reviewed by the Chamber's Board of Directors and if within the organization's charter and in adequate form they are submitted to referendum. The referendum pamphlet which is submitted to the membership contains the committee's report and in addition a brief of the major arguments against the recommendations, and such other matters as the Board may deem advisable.

Thus, if more than two-thirds of the votes cast by the organization membership are registered in favor of the propositions submitted or any of them, these propositions so approved are regarded as having been adopted by the Chamber.

The National Chamber has an organization membership of about 1,700 chambers of commerce and trade associations. Its representation is so broad that the principles it advocates on behalf of its members are believed to represent the prevailing opinion of the commercial and industrial element in America.

With this general statement of the National Chamber's organization and policy the import of the studies now being made by its National Water Power Policies Committee can be more readily understood. The character of the studies and the particular lines of investigation that will be pursued have been left entirely to the judgment of committee members as a whole.

The committee at its first meeting, held November 14 to 16 inclusive, 1928, decided upon a factual study of major features in water power development as its first labor, with a view to making it the basis of such recommendations to the Chamber's Board of Directors as it may agree upon. These studies cover in the main three phases of the water power problem: first, an evaluation of the resource covering the best use of present installations in connection with fuel electric power, and the relative importance of undeveloped sites; second, the present status of regulation of water powers; and third, the relationship of water powers to certain

industries and to such governmental projects as involve flood control, reclamation and navigation.

THERE is often much confusion in the public mind as to what constitutes public interest and what private interest. Into this confusion there has been injected the subject of "government ownership."

With no thought of suggesting what the committee's recommendations should cover, it can be said that the interests of the public and of private enterprise in putting water resources to beneficial use will be fully and fairly considered. The membership of the Chamber in previous declaration of policy had consistently adhered to the principle that the government should scrupulously refrain from entering any phase of business which can be successfully undertaken and conducted by private enterprise. We believe that our water powers can be used most economically and to their maximum productive capacity through the extensive interconnected power systems of the country now almost entirely in private ownership. We believe the Federal Water Power Act to be basically sound, in the opportunity it presents for private initiative under supervision and that it should be applied uniformly to all projects with respect to which there is a Federal function.

IN the opinion of the Chamber's membership the ill effects of government ownership may be duplicated through unnecessary or oppressive regulation. It has long been the position of the membership that measures or proposals which have for their object the control of industries be subjected to close scrutiny and examination. Regulative laws and administrative acts should touch business enterprise with great care and only to preserve a fair field to all. The foundation of all enterprise is primarily that of service to the community and this service is most effective under private initiative.

The Chamber's National Water Power Policies Committee is free to decide for itself the water power issues it will deal with and present for Chamber consideration. It may exercise complete independence of judgment and may open up anew any phase of present policies which in its judgment stand in the way of business and national welfare. The facts are sought not in the interest of any group of people or section of the country. They are sought only for their national significance.

The members of this committee are:

Frederic A. Delano, Chairman, Washington, D. C.
Thomas S. Baker, president, Carnegie Institute of Technology, Pittsburgh, Pennsylvania.
Arthur S. Bent, president, Bent Brothers, Inc., Los Angeles, California.
Frank P. Glass, editor, *Montgomery Advertiser*, Montgomery, Alabama.
Lafayette Hanchett, president, Utah Power and Light Company, Salt Lake City, Utah.
David C. Henny, consulting engineer, Portland, Oregon.
Horace W. King, professor hydraulic engineering, University of Michigan, Ann Arbor, Michigan.
Alexander Legge, president, International Harvester Company, Chicago, Illinois.
Charles H. MacDowell, president, Armour Fertilizer Works, Chicago, Illinois.
Frank I. Mann, Bois d' Arc Farm, Gilman, Illinois.
Harold G. Moulton, president, Brookings Institution, Washington, D. C.

R. E. Norton, vice-president, C. H. Geist Securities Corporation, Philadelphia, Pennsylvania.
Lewis B. Stillwell, consulting engineer, New York, New York.
Harry Taylor, Major General, ex-chief of Engineers, U. S. A., Washington, D. C.

The conclusions of this group of men should clarify many matters of nation-wide application in water power development and point the way toward practical solutions and sound policies in public interest with due regard for good economies.

THE REGULATION OF PRIVATE ENTERPRISE IS THE WILL OF THE PEOPLE

"The election has again confirmed the determination of the American people that regulation of private enterprise and not government ownership or operation is the course rightly to be pursued in our relation to business. In recent years we have established a differentiation in the whole method of business regulation between the industries which produce and distribute commodities on the one hand and public utilities on the other. In the former, our laws insist upon effective competition; in the latter, because we substantially confer a monopoly by limiting competition, we must regulate their services and rates.

"The rigid enforcement of the laws applicable to both groups is the very base of equal opportunity and freedom from domination for all our people, and it is just as essential for the stability and prosperity of business itself as for the protection of the public at large. Such regulation should be extended by the Federal Government within the limitations of the Constitution and only when the individual states are without power to protect their citizens through their own authority."

—HERBERT HOOVER.

(In his inaugural address, March 4, 1929.)

"Informal" Complaints

What They Mean in Savings to the Utility Companies—and to the Public

¶ *When a formal complaint is filed with a Commission, the law provides that a copy of it be sent to the utility company; that the case be then set down for a hearing—usually a costly proceeding that involves the fees of lawyers and expert witnesses—and that this be followed by the filing of briefs, printed at the expense of the contending parties.*

¶ *How the Public Service Commission of one state is saving both the utilities and the public a large part of the delays and expenses of such proceedings and is rendering a service that has effected economies estimated at millions of dollars, is told in this article by—*

JOHN G. HOPWOOD
SECRETARY OF THE PUBLIC SERVICE COMMISSION OF PENNSYLVANIA

THE general public has no conception of the magnitude of the work done by utility Commissions incidental to or apart from the formal matters of regulation that come to such bodies.

The great source of the public information comes through the medium of the public press. The utility patron necessarily knows the work of Commissions as a matter of formal proceedings somewhat akin to court litigation. If the proceeding be a rate complaint wherein a local community is interested and sharp issues are raised, naturally it becomes a news item for public consumption. On the other hand an adjustment of service or rate difficulties of an individual patron is of no particular interest save to that individual himself, yet if a real grievance is adjusted to a patron's satisfaction, without resort to formal proceedings, and the consequent expense of the employment of counsel and the procuring of witnesses, the service rendered by the Commission is of real and substantial value.

This is but an example of the many instances wherein a Commission, as an intermediary between utility and consumer, becomes a money saving device to both parties.

The Pennsylvania Public Service Commission has been particularly active in the adjustments, settlements, and compromises, effected through its offices, of matters not of formal record but reflecting economies to both

utility and ratepayer, speculative perhaps but nevertheless actual. These problems are usually docketed and known by the Commission as "informal complaints."

THE Pennsylvania Public Service Company Law has prescribed the manner in which complaints, applications, and other matters shall be disposed by the Commission. For example:

When a complaint is filed with the Commission, a copy of it is forwarded to the utility concerned for its answer. The case is then set down for hearing, when testimony is produced at length concerning all the matters complained of. This naturally requires the services of lawyers and, in a great many cases, the testimony of engineers and other expert witnesses. This is followed by the filing of printed briefs and oral argument, when the case is finally ready for disposal by the Commission. The parties to the proceedings must bear these expenses, (which are by no means inconsiderable); hence it follows that an avoidance of such steps means money in the pocket of the consumer who feels he has a subject of complaint against a utility. This is often accomplished in the adjustment of the many informal complaints which the Commission handles.

By "informal complaints" is meant complaints received by letter, telephone or telegraph, or entered by persons who call at the Commission's offices. When such complaints involve the service rendered by the utility, they are handled through the secretary's office in conjunction with the several technical bureaus of the Commission. When the grievance involves rates, safety of facilities, or matters of a legal or engineering nature, it is directly assigned to the proper bureau for adjustment.

WHEN an informal complaint is lodged with the Commission, a copy or memorandum thereof is sent to the utility with a suggestion that the Commission would appreciate an investigation and statement of the situation from the company's viewpoint. In some cases it is revealed that the matter would never have reached the Commission if the parties had conferred or tried to reach an understanding in the first instance. In other cases the cause of complaint is satisfied by agreement or concessions, or compromises, by either or both of the parties. Calling attention to a decision of the Commission in a parallel case will often direct the attention of the consumer or utility to the rights and duties involved in the controversy.

When necessary, as is often the case, the Commission directs a field examination at its own expense to the end that an amicable settlement can be reached.

Of course, not all such informal complaints are thus happily adjusted. If the informal procedure is ineffective the complainant is reminded of his right to file a formal complaint and thus have his grievance adjudicated.

SINCE the Commission has carried an informal docket the secretarial department alone has handled 5744 informal complaints, of which 77 to 82 per cent have culminated in

satisfactory settlements. However, the percentage varies with the different utilities and the nature of the complaints.

Out of a block of 150 informal complaints recently handled by this department, 50 were related to water service, 30 to telephone service, 28 to gas service, 10 to street railway service, 10 to railroad service, 6 to auto bus service, 3 to express service, 2 to sewerage service and 2 to steam-heat service. In cases involving water and gas line extensions the percentage of satisfactory adjustment may be as low as 65 to 70 per cent, while telephone service line extensions may be as high as 90 per cent, or more.

Of course, it does not follow that all or nearly all the complaints not satisfied informally develop into formal proceedings. Many of such complaints involve main extensions which are largely speculative and require a long development before the extension can reasonably be made.

THE Commission's Bureau of Rates and Tariffs covers the rate field of utility regulation. This bureau handles informally many rate adjustments and conducts investigations in behalf of dissatisfied patrons. Since its inception 10,692 investigations have been made; of this number 3788 were in the nature of claims for reparation on account of excessive rates. In these cases the public received refunds aggregating about $1,267,752, without the annoyance and expense of formal rate proceedings. In the other cases 6,904 matters of rate adjustment in all utilities were concerned, and in a majority of such cases the Bureau was successful in securing adjustments without the necessity of formal procedure.

The sum total in dollars of benefit or saving to the public is not possible of ascertainment, but considering that the benefits are cumulative from year to year, the amount must be very substantial.

In addition to the above, the Bureau of Engineering has handled 6,063 informal complaints and disposed of them in a manner satisfactory to parties concerned and the Commission in almost all instances. During the last three years a very substantial increase in the number has occurred due to activity in rural electrification work. These extensions have been under the joint supervising direction of the Commission's engineers operating either directly or in co-operation with the Pennsylvania Joint Committee on Rural Electrification. All told, in the years 1927 and 1928, about 1,500 cases have been handled and satisfactorily settled in a vast percentage of cases.

This work has involved an expenditure of over $5,000,000 by the utility companies in territories where service was not rendered prior thereto.

THE sum of money saved to the public or all parties concerned by these methods of co-operation in lieu of litigation amounts to several hundred thousand dollars, but the benefits therefrom in actual accomplishment cannot easily be estimated in dollars and cents any more than can the benefits of peace times be compared on the dollar and cent basis with times of war.

Again, the Commissions' engineers, during the last ten years, have han-

dled formal and informal matters in engineering conferences to the satisfaction of the parties and of the Commission. Here, as in the other cases, the saving in time by actual accomplishment in bringing minds together to a point of agreement, and in the settling of issues or in reducing to the irreducible minimum the points of conflict can be said to be represented by hundreds of thousands of dollars. Other benefits, far greater, cannot be so easily measured. One man's guess is as good as another.

THE Bureau of Accidents attends to safety matters for the Commission with an insignificant expenditure, so far as the petitioners for protection are concerned. To Illustrate:

More than a hundred railroad crossings on important state highways were protected by flashing light signals during the past year. The entire cost of these signals was borne jointly by the railroad companies affected and by the State Department of Highways. Complaints that pertain to the safety of facilities and appliances are first handled informally; only on rare occasions does the necessity arise for formal procedure with the attendant financial outlay.

During the Commission's existence (beginning January 1, 1914), the greatest objective held in mind, as well as established in law and emphasized by the opinions of the courts, has been public service.

Service is the primary obligation of the utility; it is the primary duty of the Commission to see that adequate service is rendered. It is the privilege of the company to enjoy reasonable rates provided adequate service is rendered, so that the main criterion before the courts and the legislature and its agent, the Commission, is good service—not necessarily how much has the Commission reduced rates during its existence. However, while service has been improved and the stability of utilities maintained, at the same time utility rates, (specifically the electric utilities in Pennsylvania), are in round numbers $25,000,000 less per annum than they would have been had the rates of fourteen years ago been maintained and in full force and effect at the close of 1928. How much the savings may have been with respect to other utilities has not been computed, as no particular occasion has arisen demanding such research work.

THESE savings and economies to the utility and patron have been accomplished through the co-operative means already mentioned. Conferences, informal discussions, and conclusions in which the utility representatives have participated can be truthfully said to have assisted in bringing about this result through methods initiated, fostered, and maintained by the Public Service Commission.

Should Public Service Commissioners Be Appointed or Elected?

¶ *What are the advantages and disadvantages of both methods? They will be pointed out in a coming issue of* PUBLIC UTILITIES FORTNIGHTLY.

WHAT READERS ASK

Out of the mail bag of the Editor have come these questions; because they touch upon subjects of broad interest to those in the public utilities field, they have been selected for publication—together with the answers. What questions do *you* want to ask?

QUESTION

What is a "public utility?"

ANSWER

This appears to be an innocent question. It is generally the first one asked by anyone who sits up and begins to take notice of regulatory matters. But it is a most difficult question to answer. It is a vital inquiry because it goes to the very root of the power to regulate particular kinds of business.

It is hard to tell just what the difference is between a public utility and a private business; that is to say, it is hard to lay one's finger on the factor which distinguishes one form of business from the other. Two characteristics suggest themselves: one is the occupation of the streets, for the use of rails, poles, wires or mains and conduits; and the other is the operation of business under monopolistic conditions.

Neither of these tests, however, is what might be called acid. A business may be a public utility, although it does not use the highways or it may operate as a monoply without being a public utility. The supreme court says that a business is a public utility enterprise when its property is devoted to a use in which the public has an interest. But the public has more or less interest in all kinds of business; even the corner grocer renders a service to a portion of the community. If public interest alone were the test, it would be difficult to tell why a telephone company is regarded as a public utility and a newspaper as a private enterprise.

Railroads, street railways, water, gas, and electric companies are all admitted to be public utilities. They are commonly accepted as such. But is a radio broadcasting company a public utility? Is a corporation owning the stock of a public company itself a public utility company? Is coal mining a public utility or a private business?

Nobody will know for certain until these questions are litigated, and the supreme court answers them one way or the other. It is interesting to note that the flexibility of the rules for determining what does or does not constitute a public utility are such as to permit the court to adapt itself to changing conditions.

QUESTION

Have all of the states a State Public Service Commission?

ANSWER

Practically, yes—with the single exception of Delaware. Only sixteen states and possessions of the United States, however, have commissions that are designated as "Public Service Commissions;" These are: Alabama, Georgia, Indiana, Kansas, Louisiana, Maryland, Missouri, Nevada, New Hampshire, Oregon, Pennsylvania, Vermont, West Virginia, Wyoming, Porto Rico, and the Philippine Islands.

There are other jurisdictions in which the Commission is called a "Public Utilities Commission." This is the name of the Commission in Colorado, Connecticut, District of Columbia, Idaho, Maine, Michigan, Ohio, Rhode Islands, Utah, and Hawaii.

Other states have what are called "Railroad Commissions" or "Boards of Railroad Commissions." These States are Arkansas, California, Florida, Iowa, Kentucky, Mississippi, North Dakota, South Carolina, South Dakota, Texas and Wisconsin.

The above are the names of Commissions most generally used. The designations of the Commissions in other states are as follows: Illinois, the Commerce Commission; Massachusetts, the Department of Public Utilities; Minnesota, the Railroad and Warehouse Commission; Montana, the Board of Railroad Commissioners and Public Service Commission; Nebraska, the State Railway Commission; New Jersey, the Board of Public Utility Commissioners; New York, the Department of Public Service; Tennessee,

the Railroad and Public Utilities Commission; Washington, the Department of Public Works; Arizona, North Carolina and Oklahoma, the Corporation Commission; New Mexico and Virginia, the State Corporation Commission.

The names, however, do not indicate the extent of the powers of the Commissions. Some of the Railroad Commissions—for example, those of California and Wisconsin—have as wide a range of jurisdiction as the Public Service or Utility Commissions. The Corporation Commissions have jurisdiction for certain purposes over corporations other than public utility companies.

QUESTION

How many Commissioners are there on the regulatory Commissions of the various states?

ANSWER

By far the greater number of states have three Commissioners. There are five Commissioners in California, Georgia, Indiana, Kansas, Massachusetts, Michigan, New York, and Porto Rico, and seven in Illinois, Pennsylvania, and South Carolina.

QUESTION

Are Public Service Commissioners appointed or elected?

ANSWER

Commissioners are appointed in thirty-one jurisdictions, including the District of Columbia, Hawaii, and the Philippines. In twenty states they are elected.

It is significant to note that in all Eastern states (with the exception of Delaware, which has no Commission at all), the office is appointive; these states include Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Virginia, West Virginia and the District of Columbia. In some of the Middle Western and Coast states the office is also appointive, as in Ohio, Michigan, Illinois, Indiana, Missouri, Washington, Oregon, and California.

In all Southern states below Virginia, Commissioners are elected, with the exception of South Carolina where they are appointed by the legislature.

QUESTION

For how long a term does a Public Service Commissioner serve?

ANSWER

The average term of the Commissioners is six years. The longest term is ten years, the periods in Pennsylvania and New York. The shortest is two years, the period in South Carolina and Arkansas.

In Washington and the Philippines the office is held at the pleasure of the Governor and for the period of good behavior respectively.

QUESTION

Who exercises authority over Public Service Commissions?

ANSWER

Probably the correct legal answer to this question is: The legislatures which create them.

In a few instances, however, the Commissions are constitutional bodies, and in such cases the power of the legislatures over the Commissions would not be supreme. But in the case in most states, as the Commission may be created or abolished at will by the legislature, it is apparent that the legislature holds the Commission in the hollow of its hand. A rate may be fixed by a Commission and it may immediately be superseded by one fixed directly by the legislature. This happened in the early history of the present Railroad Commission of Wisconsin. The Commission, after a careful investigation determined that a certain railroad company was entitled to a passenger fare of 2½ cents a mile; but the legislature immediately overruled the Commission by fixing a fare of 2 cents a mile.

Sometimes when there is a change of administration and the legislature takes on a different political complexion, an old Commission is abolished and a new one is established under a different name. This has happened several times in New York state. In most states the legislature has full control over Commission activities.

The courts also have some control over Commissions. It is the business of the courts to see that Commissions do not fix rates so low as to confiscate the property of the utility companies, or usurp the functions of management.

The public, too, has an indirect control. In several instances Commissions have refused to put forms of rate schedules into effect, although admitting them to be fair, because of popular disapproval. In the great majority of instances, however, Commissions have acted as their judgments dictated irrespective of popular misunderstanding and disapproval.

QUESTION

Do Public Service Commissions have to be consulted and authority obtained before utility stock is "watered?"

ANSWER

This is what lawyers call a "double barrelled question." Commissions have control of stock issues in about half of the states. In states that have complete control over security issues, the companies have to obtain authority from the Commissions before they can issue stocks and bonds. Utility companies do not usually apply, however, for permission to "water" their stocks. That has been in disfavor by the Commissions for a good many years. The main purpose of the regulation of public utility securities is to keep the water out of utility stock. While rates are not based on capitalization (as many persons continue to think), the regulation of security issues is supposed to afford an indirect protection to the ratepayer by safeguarding the financial credit of the companies, thus enabling them to obtain new capital for the expansion of the business to take care of the need of the public for additional service.

QUESTION

Do State Public Service Commissions have authority over interstate utilities that are now under regulation by Federal Commissions? If so, where does the authority of one Commission end and the other Commission begin?

ANSWER

The answer to the first question is "no." If the State Commissions had authority over interstate utilities regulated by a Federal Commission, we should not know how to answer the second question, as to where the authority of different Commissions began and ended. This would never do. There is trouble enough in the world already. The Interstate Commerce Commission, and the various State Commissions are now doing their utmost to be on friendly terms with one another; but it would be expecting too much to have that *entente cordiale* continue if the question whether the State Commissions had authority over interstate matters regulated by the Federal Commissions were answered in the affirmative.

QUESTION

Has Commission regulation tended to reduce the value of utility securities?

ANSWER

It is impossible to give more than a speculative answer to this question. If a utility company were not regulated; if it were strongly intrenched and were earning from ten to fifteen per cent on the value of its property, instead of seven or eight per cent permitted under regulation, its securities would be more valuable than they would be if the company were not under regulation, provided the securities were not heavily watered. However, when utility securities can be issued only under the authority of a Commission, which has power to prevent over capitalization, such securities are highly regarded as investments, when the company is reasonably assured of protection from competition, and of the right to earn a reasonable return.

In New York state, and probably elsewhere, securities under Commission regulation are regarded as more secure investments than those not under regulation.

QUESTION

Has public utility regulation tended to reduce earnings of power utilities?

ANSWER

Public utility regulation has resulted in great savings to ratepayers, due to forcible as well as voluntary reduction in rates. That would undoubtedly mean a great reduction in the earnings of public utility companies; but, under regulation, as they are still allowed to earn a fair return on the value of their property, and as they are protected from competition, they have prospered and expanded in spite of rate reductions. We should say that regulation has had a decided tendency, however, to reduce net earnings, although not beyond a point which the public regards as reasonable or beyond a point which has prevented the development of the service to meet the needs of the public.

QUESTION

Have any Public Service Commissions been discontinued or their powers decreased?

ANSWER

We do not recall that the Commission idea has been discontinued. The Railroad Com-

missions have persisted for many years; but in some instances jurisdiction of Commissions has been decreased, in favor of regulation by local authorities. Commissions have been legislated out and others legislated in, but the Commission idea has persisted in some form. In most instances the tendency has been to strengthen rather than weaken the Commissions.

QUESTION

Has any state more than one Commission?

ANSWER

All of the states, except one have now single Commissions for the regulation of public utilities. It used to be the practice of some of the states to have separate Commissions for the regulation of railroads, gas, and electric utilities, but now these Commissions have been consolidated. New York, however, still has two Commissions, operating under the general title of "Department of Public Service." The first is the Metropolitan Division, or the Transit Commission, which has jurisdiction over certain matters of interest only to the city of New York; the other is the State Division, or the "Public Service Commission," which has general jurisdiction of public service companies throughout the state.

QUESTION

Must a public utility company get authority to operate from a Public Service Commission?

ANSWER

Yes. This is one of the most important functions of a Public Service Commission. It was one of the earliest problems of regulation to which the legislatures directed their attention. Even the Railroad Commissions had power to grant or withhold consent to new enterprises. The purpose of granting this power to Commissions was to prevent the wasteful duplication of facilities which resulted from allowing the free play of competitive forces in the utility field, which was regarded as disadvantageous to the public. A utility already occupying the field, and giving adequate service, is in this way protected from competition by another utility. The public is in turn protected from overcharges, by the power of the Commission to fix the rates which the established utility is allowed to charge.

QUESTION

What part do the courts have in fixing utility rates?

ANSWER

The courts do not have the power to fix rates. This rate-making power is a legislative power which may be exercised by legislatures or by Commissions, which in their regulatory activities are arms of the legislatures. The courts merely have the power to determine whether or not a rate fixed by a legislature or Commission is so low as to amount to a confiscation of the company's property. If the court finds that the legislative or Commission rate is too low, the court can declare it so; but the court has no power to go beyond that and fix a proper rate. The case must be sent back for further action by the legislature or the Commission.

QUESTION

Do Public Service Commissions determine rates charged to consumers?

ANSWER

Yes. That is one of the chief purposes of regulation. The theory of rate regulation is that public utilities are natural monopolies; and that their rates should, therefore, be fixed by the states acting through their Commissions.

Rates are usually fixed after a hearing granted to all of the interested parties, when there is any controversy over the matter. The Commissions have the power—and often exercise it—of fixing rates to consumers on the Commissions' own initiative. Those who favor state regulation of utilities maintain that the rate maker gets the benefit of savings due to utility operation on a large scale and is protected from overcharges, which might result if the consumers' rates were not fixed by the Commissions.

QUESTION

What salaries are paid to Public Service Commissioners?

ANSWER

The average pay given by the various states to Commissioners is $5,092.64 a year. The average pay of the Chairman in those states where he receives more than his associates is $5,475. The highest paid Commissioners are those of New York with $15,000 a year. New Jersey is next with $12,000; Pennsylvania is third with $10,000. The lowest paid Commissioners are those of Vermont, who receive $2,000 a year, although the Chairman of that state receives $4,200. Mississippi is also very low, with $2,250 a year for all Commissioners.

More About the "Breakdown" of the Public Service Commissions

EDITOR'S NOTE:

So many letters have come to PUBLIC UTILITIES FORTNIGHTLY *in commentary on the article "The Breakdown of the State Commissions," (published in the February 21st issue), that the editors have selected the following for publication; all of them contribute either new information or a new point of view to this timely subject.*

Court Delays Are Not Evidence of Commission Failings

MR. Spurr's article in PUBLIC UTILITIES FORTNIGHTLY, in reply to the editorial in the New York *World* on the "Breakdown of the Public Service Commissions," answers in all essential particulars the charges brought by the *World*. But it is not complete.

Of course, it is well known to those familiar with the matter that Public Service Commission regulation has not broken down. The writer in the *World* article has taken a couple of involved and complicated cases in which there is a wide and indefinite twilight zone between the rights of the corporations and the rights of the people, and which would naturally lead to appeals to the courts. And because the very importance of the problems to be solved has required long and thoughtful study by Commissions and courts alike, the *World* assumes that the time consumed is proof that Commission regulation has "broken down."

As a matter of fact it is nothing of the sort; on the contrary, it is a proof that Commission regulation is sound, careful, and conservative. This is only an instance of a writer who assumes conditions and premises, without a knowledge of the facts and underlying circumstances, and who argues from these faulty premises.

So far as I have been able to observe, there is no class of men in the public service more conscientious and painstaking in their duties than members of Public Service Commissions, or who give greater service to the whole public. In most of the states they are underpaid, and get scant recognition of the real services they perform. Demagogues frequently lead a portion of the public to believe the power to regulate is the power to injure or destroy the utilities which serve them; because the Commissions, knowing better, refuse to adopt and act upon such theories, they are classed as crooks, tools, or friends of the corporations—according to the intensity of feeling or lack of information by this part of the public.

On the other hand, certain rather highly-paid corporation officials, or financiers interested in utilities, who resent being checked in their efforts to cut corners and having their corporations held to a strict performance of their public duties, regard members of Commissions as cheap politicians, clothed with a little brief authority which they use for the annoyance and persecution of such of the Lord's anointed as have been put in charge of these great corporations. So the Commissions get it from both sides; but they go on, doing their duty as they see it,

honestly and to the best of their ability.

Of course, the *World* does not speak for Maryland. On the whole, I think Maryland is fairly well satisfied with Commission regulation of utilities. If, however, the *World* believes that Commission regulation has broken down in New York (which I know is not the case at all), then there are three courses open, one of which it may persuade the people of that state to follow:

1. Strengthen the law where it may need strengthening:

2. Abolish the law and the Commission and go back to the old system of establishing rates by the state legislature, or by municipal authority, which would mean again putting the utilities up to their necks in politics, with all the evils of that system which Commission regulation wiped out. (In that case I imagine rates and rules established under that system would be in the courts far more than they are now):

3. Have the people take over and operate these utilities as municipal or state enterprises, with all the waste and inefficiency that public ownership and operation usually entails.

—HAROLD E. WEST,
Chairman, Public Service Commission, Maryland.

The Courts Sustain Commission Rulings in Massachusetts

I HAVE read "The 'Breakdown' of the Public Service Commissions" with interest. Of course, I can only speak for Massachusetts. A Railroad Commission was established in Massachusetts in 1869; a Gas and Electric Light Commission in 1885. The Railroad Commission, in 1913, was changed to the Public Service Commission, and in 1919 the Public Service Commission and the Gas and Electric Light Commission were consolidated into the present Department of Public Utilities. Thus, since 1869, Massachusetts has attempted to regulate railroads and railways by Commission, and since 1885 gas and electric light companies. I doubt that in all that period of time the decisions of the Massachusetts Commissions have been reversed in appeals to the courts more than ten times. I have been with this Department since its consolidation and it has been reversed but once. In rate cases, I know of no instance of reversal.

It is difficult to conceive what one would substitute for a Commission in the regulation of public utilties. If a breakdown occurs in this Commonwealth, in my judgment, it will be due to the activities of the Federal Courts in setting up their opinions against those of the regulatory body of Massachusetts as to the value of the property employed by the utility and the fair rate of return thereon. This tendency of Federal Courts, of course, leads to litigation, as it encourages utilities in the hopes that they may get more, while they run no risk of getting less.

—HENRY C. ATTWILL,
Chairman, Department of Public Utilities, Massachusetts.

No "Breakdown" in California

DURING the past five years gas and electric utilities under jurisdiction of this Commission have reduced rates approximately $6,500,000; $950,000 of this amount is gas proportion.

The $5,550,000 figure for electric and $950,000 for gas utilities, while necessarily approximate figures, are reasonable. No attempt has been made to reflect total accumulative savings to consumers during the 5-year period involved, nor has any allowance been made for the increasing effect of the early reductions on account of growth in sales. The figures given are, therefore, merely the sums of any reductions as figured for the years in which they became effective.

—H. G. MATTHEWSON,
Secretary, Railroad Commission of the State of California.

$3,730,000 Saved to Consumers by the Oklahoma Commission

AFTER some delay, due to obtaining some information which we did not have in this office, I am able to send you the following figures which represent the approximate savings to gas consumers and electric consumers in this state:

Electric	*Gas*
$560,000.00	$3,170,000.00

These savings are due to rate reductions made by companies under the jurisdiction of the Corporation Commission.

—R. H. LUSSKY,
Gas and Electric Engineer,
Corporation Commission of Oklahoma.

The Virginia Commission Has Saved Consumers $2,675,000

HERE is a list of the estimated savings, through rate reductions, to electric and gas consumers in Virginia during the past five years. Most of the reductions during this period were made voluntarily by the companies or through informal proceedings with the Commission; in view of this fact it has been necessary to call upon the companies themselves for data as to these reductions.

I addressed communications to all the gas companies, a total of eleven, and also to eighteen of the largest electric companies operating in Virginia. Replies were received from all companies with the exception of one gas company and one electric company. On this basis the following estimated annual savings were determined:

Gas companies; by voluntary or informal proceedings:

1924	$21,950
1925	12,100
1926	64,100
1927	28,700
1928	5,000
Total	$131,850

Electric Companies; by voluntary or informal proceedings:

1924	$ 40,950
1925	18,550
1926	23,200
1927	474,850
1928	124,000
Total	$681,550

By formal proceedings, the electric companies saved:

1925	$100,000
1926	120,000
Total	$220,000
Grand Total	$901,550

Some of the companies were unable to give data covering all reductions during the period in question, due to the fact that, upon consolidation, the records of the smaller companies were either incomplete or destroyed. In some cases the coal clauses have been cancelled as applied to certain rates and a few of the companies were unable to give any estimate as to such savings. I also find that, upon examination of our rate files, there have been a good many slight reductions made, such as adding extra steps at lower rates to the schedules, which the companies have not considered in the above figures.

In view of this, I would certainly say that a very conservative estimate shows that the savings in Virginia for this period have been more than $150,000 to gas consumers and more than $950,000 to electric consumers.

In this connection, it should be borne in mind that these figures merely represent the estimated savings to customers at the time the rate reductions became effective, equated to an annual basis. They do not represent the cumulative effect such reductions have on the suc-

ceeding years. If the cumulative results of these reductions from year to year are to be considered, then a conservative estimate shows the savings to have been more than $450,000 to gas consumers and more than $2,225,000 to electric consumers.

This Commission has no control over municipal plants in Virginia and we have no way of determining any savings to consumers of such plants.

—G. C. BOYER,
Engineer, State Corporation Commission of Virginia.

One of the Dangers to the Commission Form of Regulation

I READ with interest the article appearing in the February 21 issue of your magazine entitled The 'Breakdown of the Public Service Commissions,' and believe it to be a very fair reply to the editorial in the *World* and an effective answer to the accusation that regulation by State Commissions has broken down. The only danger that I can see now towards a weakening of regulation by State Commissions is the constructions and limitations placed recently by the courts on the valuation of public utilities. That regulation by State Commissions could be further strengthened and improved, will be admitted by anyone who understands the situation. Constructive criticism and help from the press in that direction would, I am sure, be welcomed. Destructive criticism by the public and the press does not get us anywhere, but only tends to create confusion in the public mind."

—OTTO BOCK,
Chairman, Public Utilities Commission, Denver, Colo.

$311,765 Saved to Consumers in Oregon

THE estimated saving to gas and electric consumers through rate reductions made by companies under the jurisdiction of this Commission during the last five years is as follows:

Saving to gas consumers due to reduction, $61,765; to electric consumers, $250,000.

—HERBERT H. HAUSER,
Secretary, Public Service Commission of Oregon.

The Importance of the Scientist in the Development of the Utilities Industry

TODAY *the experimenter is the heart of business and he grows in importance with the company's size. There is hardly an industry that can afford to be without its research and experimental laboratories. The best technically trained men that the schools can produce are snatched up by eager corporations, who have learned that the essence of industrial progress is improvement. Millions are being expended yearly in experiment and the whole world is being scoured for the better material and the better thing. Today, in industry we are inspired not by what has been done, but by what there is yet to do. These experimenters who have come in with their scientific telescopes have given us glimpses into the infinite possibilities of the future. There was and is a very definite limit to what can be gained by industrial welfare between men, but there is no known limit to the results from the conquest of nature."*

—PRESTON S. ARKWRIGHT

The March of Events

California

Cities Present Case against Telephone Rate Increase

THE cities opposing the proposed increase in rates of the Pacific Telephone & Telegraph Company have been presenting their evidence at hearings begun on February 19th before Commissioners Clyde L. Seavey, Ezra W. Decoto and W. J. Carr. Their principal witnesses have been Dr. Milo R. Maltbie, utility expert of New York; Walter W. Cooper, chief accountant for the rate department of the East Bay Cities; Paul L. Beck, assistant valuation engineer for the city of San Francisco; R. A. Belinge, telephone engineer; and W. S. Owensby, chief rate accountant for San Francisco.

The testimony of these witnesses is intended to show that the reproduction cost estimates introduced by the company are excessive; that the valuation of land is too high; that there has been duplication of underground conduits; that there have been included unused items of property; that estimates of operating expenses are too high; and that reserves for depreciation have been improperly handled.

An estimate of $10,000,000 for going concern value put forward by the company should, in the opinion of Dr. Maltbie, be eliminated. Dr. Maltbie has also expressed the opinion that 6 per cent is a reasonable rate of return for the company.

Leased wire contracts have been under attack. The opponents of the rate increase take the position that if the local exchanges received a fair share of the leased line revenues, a profit would be shown instead of the deficit claimed by the company. Objection is made to the moneys paid over to the American Telephone & Telegraph Company by the Pacific Company under such contracts.

Revision of Rate Contracts

ARGUMENTS were heard by the Supreme Court of the United States on March 6th and 7th in the case of Sutter Butte Canal Company *v.* Railroad Commission of the State of California, involving the rights of a public utility company under contracts entered into between the company and its consumers.

The judgment appealed from was handed down by the Supreme Court of California in a proceeding brought by the utility company to review a Commission order. The order permitted the holders of contracts to change their contracts from bilateral, mutual, dependent, and concurrent contracts into unilateral contracts or mere options or privileges in favor of this class of customers.

Connecticut

Revision of Electric Rates Sought

A PETITION for a revision of electric rates charged by the Danbury & Bethel Gas & Electric Light Company has been forwarded to the Public Utilities Commission by consumers in Bethel, headed by First Selectman Robert C. Keeler. It is alleged that the rates are discriminatory, excessively high, and more than is just and reasonable.

Several attempts, says the Danbury *Times*, have been made to settle the

matter through the adjustment of individual cases, but while some slight adjustments have been made by the company in isolated cases, the general condition still remains the same. Recently many petitions have been sent in by merchants and residents demanding an investigation of the electric rates.

The petitioners take the position that Bethel is not bound in any way by the new rates charged by the company, as Bethel was not represented at any of the hearings at which these rates were discussed.

Delaware

Public Utility Commission Proposed

THE state of Delaware, the only state in the Union which up to the present time has not established some sort of a Commission to regulate public service corporations, may join the other states in adopting this mode of regulation. A bill with that end in view has been introduced in the legislature.

It is provided that the Governor shall appoint a Commission of three members. The chairman would receive a salary of $6000 a year, and the other two members would receive $5000. A secretary with a salary of $3600 is also provided for, and the Commission is authorized to maintain an office and to select such other employees as it may deem necessary to carry on the work of the Commission.

District of Columbia

Submetering Declared Illegal

THE practice of some owners of large buildings who buy electricity at wholesale rates and then submeter the current to tenants at higher rates was declared illegal on March 1st by the Public Utilities Commission, which held that this practice is contrary to the terms of its order setting up a rate schedule for the Potomac Electric Power Company. The Commission, it is reported, called attention to the following clause in the rate schedule for 1929 which reads in part:

"The consumer agrees not to use the current for any purpose or for any additional equipment other than that provided for in this contract without first having notified the company in writing and having received the company's consent thereto. It is expressly understood and agreed that electric service furnished to the consumer shall be for his, her, or their own use and may not be remetered (submetered) by the consumer for the purpose of selling electric service to another or others."

This clause, in the opinion of the Commission, was designed to limit the purchase of electric current to the customer's own use, and was reasonable as it had for its purpose the confining of the use of electricity to that for which the schedule of rates under which the current was purchased was intended.

Indiana

Rate Order Attacked as Confiscatory

THE order of the Commission fixing rates of the Wabash Valley Electric Company at Martinsville has been attacked in the Federal Court on the ground of confiscation. The company asserts that the enforcement of the new rate schedule would cause it to operate at a $50,000 annual deficit.

The valuation is alleged by the com-

pany to be less than the actual book cost of the property. The company also complains that the Commission failed to make proper allowances for depreciation reserve and working capital, and that it ignored other principles which must be followed in rate making.

On March 2nd Judge Robert C. Baltzell, in Federal Court, granted a temporary injunction restraining the rate reduction order pending the final outcome of the litigation.

Louisiana

Higher Water Rates Permitted in Baton Rouge

THE appeal of the city of Baton Rouge to dissolve the Federal District Court injunction preventing municipal interference with the Baton Rouge Waterworks Company in charging increased rates on February 25th met with defeat before the United States Circuit Court of Appeals. The company had claimed that it was making a return of only 3 per cent instead of 9 per cent. The inability of the company to meet expenses within the limits allowed by its franchise was alleged as the basis for its action in seeking an injunction.

Hearing on Telephone Rates

A HEARING on the application of the Southern Bell Telephone Company for a readjustment of rates in the Cedar Grove and South Highland areas, which recently were annexed to the city of Shreveport, was opened on February 25th before Commissioner Harvey G. Fields.

Massachusetts

Propaganda Inquiry Collapses

A FEEBLE echo of recent rate proceedings, says the Boston *Evening Globe,* was heard on February 26th at a hearing of the legislative committee on power and light in relation to the proposal of an investigation of the so-called "power trust." It is reported that the hearing opened with the collapse of the movement for an investigation of the "propaganda" of the power companies. Martin T. Joyce, who had introduced a bill for such an inquiry, withdrew it, explaining that information promised him in support of his demand for an inquiry had not been forthcoming.

Daniel P. Lane, Cambridge Councillor-at-large, Wycliffe C. Marshall of Watertown and Samuel C. Mildram, who have figured prominently in rate hearings, appeared to support a bill by Mr. Lane, to have the Public Utilities Department investigate holding companies and associations.

Proposed Rate Schedule Suspended

THE new rate schedules filed by the Malden & Melrose Gas Light Company, the Suburban Gas & Electric Company, and the Fall River Gas Works Company were suspended on February 26th by the Public Utilities Department until April 1st. In the meantime the Commission will make a further investigation of these schedules.

Electric Service Charge Explained and Attacked

No one can lose and many can save through the new electric light rates of the Lowell Electric Light Corporation, President John A. Hunnewell, of the company, declared at a conference with the city council on February 19th, according to a report in the Lowell *Sun*. Mr. Hunnewell explained the operation of the rate schedules and the use of the service charge.

He presented charts to prove that the service charge is not an extra charge, although there is a misunderstanding by the consumers on that point. Of 18,000 customers, Mr. Hunnewell said over 10,000 had saved a little money on the rates.

Councillor Frank J. Hubin, says the Lowell *Courier-Citizen*, notwithstanding these explanations, has issued a statement in which he proposes a protest to the Public Utilities Department against present rates in Lowell. He objects to the service charge on the ground that it is unjust and unsatisfactory to the citizens who are customers of the utility.

Hearing on Investment Cost Theory

Henry C. Attwill, chairman of the Department of Public Utilities, at a hearing before the legislature's committee on power and light on March 1st, says the *Christian Science Monitor*, recommended that the state take legislative steps to maintain its utility rate regulation system based on original investment. Chairman Attwill urged that a form of contract be offered to the companies under which they would agree to accept regulation on a basis which would adjust rates to yield a reasonable return on their actual investment, and that the field be opened to competition by municipal plants except where such contracts were made. As an alternative he proposed that all laws at present governing municipal purchase of gas and electric companies be repealed and the regulatory contracts then offered to companies desiring them.

Sheldon E. Wardwell, attorney for the Massachusetts Electric & Gas Association, it is reported, declared these proposals were coercive in the extreme and were both unfair and out of line with the economics of the situation. He indicated that the companies were not particularly interested in establishing the reproduction cost theory of valuation, saying that within a comparatively few years practically all utility property will have been replaced at the existing price levels. He said the investment cost theory might make for high rates in event of a lowering of the general level of prices for materials used by the public utilities.

Misssouri

Terminable Permit Bills in Legislature

A terminable permit bill sponsored by public utility interests has been before the legislature during the past month. The purpose is to make it possible for the public utilities to which it applies to surrender their existing limited period franchises and receive instead a so-called terminable permit, which in effect is a franchise for an unlimited period, subject to certain conditions of revocation or purchase of the property by a municipality.

One of the features advocated is that the consent of a municipality be required before a utility can surrender its existing franchise. Utilities which started operation after January 1st of this year would be required to make a showing to the Commission that public necessity and convenience required issuance of the permit.

Montana

Reduction in Electric Rates

THE Commission has announced an agreement with the Montana-Dakota Power Company officials which will bring about a decrease in electric light and power rates after April 1st. Twenty-five cities and towns in eastern Montana and approximately 6000 consumers will benefit by these new rates.

Classifications of the localities have been made on the theory that the more densely populated areas can be served at a lower unit cost per consumer than other areas. It is reported that the rate cut followed an inquiry made on the initial motion of the Commission and a hearing held on December 4th.

New Hampshire

Menace of Branch Line Cuts

APPREHENSION of further efforts to abandon branch lines was expressed by the Commission in its recent report to the legislature. A great decrease in passenger train service exceeding the decrease in passenger train revenue was also pointed out.

The Commission declared that the diversion of freight from the branch lines to the longer main line routes is inimical to the territory served by the branch lines. The Commission also called attention to the fact that routeing of freight in interstate movements from short or long haul routes was something the Commission could not regulate, although it could furnish the state with information in regard to these movements if funds were made available to secure and check the information.

Petition for Rate Revision

PETITIONS for authority to revise rate schedules were filed with the Commission, on February 28th, by the Nettie P. Brown Water System of Warren and the Grafton Electric Light & Power Company of Lebanon and Hanover. The latter company seeks a revision of rates on household service of all classes.

The Commission has set March 26th as a final date upon which objections to the proposed rates of the water company may be filed.

New Jersey

Water Utility Valuations under Attack

AT the hearings before the Commission on the application of the Hackensack Water Company for increased rates the real estate valuation and the valuation of the Weehawken reservoir property have been under attack. Active opposition has been shown at all of the hearings. The Jersey City *Journal* states that J. Emil Walscheid, counsel for the North Hudson consumers, has charged that half a million dollars will be added to next year's water bills for North Hudson and Bergen county people if the Commission grants the increase.

New York

State Gas Rate Investigation

THE question of uniform gas rate schedules in New York state has been one of the considerations of the Commission in hearings conducted at Albany during the past month. The introduction of testimony was begun on February 18th.

Numerous officials of gas utilities throughout the state were heard. There seemed to be a prevailing opinion that a gas rate schedule should be devised which would recognize the customer cost either in a direct charge or in a charge for a small amount of gas used. Robert M. Searle, representing several utilities, gave a number of illustrations of the defects of a straight consumption charge, and stated that if he were permitted to make a customer charge of $1.50 in Rochester he could sell the gas used by consumers at 47 cents per thousand feet.

Buffalo Gas Rates

COMMISSIONER William R. Pooley on February 25th began hearings on the application of the Iroquois Gas Corporation for a $2 minimum gas charge with a 70-cent consumption charge in Buffalo. Evidence was introduced in regard to valuation and the other usual elements bearing upon rates. There was also some controversy over the price paid by the company for gas purchased from the Pennsylvania Natural Gas Company, an affiliated corporation.

The hearing was adjourned on February 27th to be resumed on March 18th. City experts under the direction of assistant corporation counsel Frederic C. Rupp planned to make a minute study of the testimony submitted by the utility.

Submetering Inquiry

THAT the scope of submetering operations had reached such great proportions that it prevented the New York Edison Company and other electric power companies from putting into effect a new schedule of reduced rates for the ultimate consumer was the testimony of Nicholas F. Brady, chairman of the board of the Edison Company, at the resumption of hearings before the Commission on March 5th. Mr. Brady also testified in regard to alleged acts of discrimination by the submetering companies which in turn reflected on the utility. He maintained that direct service, because of the company's responsibility, its emergency services, and other advantages, was in practically all instances better for the tenants than submetering could be.

The advocates for the submetering companies strongly stressed the losses to building owners if submetering should be abolished. It was stated, for example, that the Pennsylvania Building which had shown a profit of $8,760 in 1928, after counting off an $11,000 bill for public lighting as paid, would face the equivalent of a loss of $20,000 a year.

The hearing was adjourned until March 19th. Chairman Prendergast with Commissioners Van Namee and Lunn conducted the hearing.

Briefs Filed in Brooklyn Gas Case

A supplemental memorandum by William L. Ransom, attorney for the Brooklyn Borough Gas Company, was filed with the Commission on March 1st to sustain the initial charge of $1 for the first 200 cubic feet of gas or less, which has been in effect since August, 1927. It is asserted on behalf of the company that the benefit from

the new rate had been demonstrated and that it has enabled the inauguration of a low rate for industrial purposes and house-heating and has resulted in a reduction of 5 cents per 1000 cubic feet for all gas beyond the initial quantity.

Corporation Counsel Nicholson thereafter filed a brief attacking the rate as unnecessary. In his brief he directed attention to the fact that the Brooklyn Union Gas Company had recently been denied permission to make a minimum charge of 95 cents for the first 200 cubic feet, and that the situation was the same as that of the Brooklyn Borough Gas Company. Mr. Ransom, it is reported, contends the situation of the two companies is different and won't bear comparison.

North Dakota

Citizens and Utility to Study Rates

THE United Public Service Company, the new owners of the Hughes Electric Company, has, through its representative, W. C. Reukauf of Mobridge, been holding meetings with the citizens of several of the towns served by the company in order to promote public relations. This plan followed the formation of a league of municipalities for the purpose of bringing about a reduction of electric rates.

Mr. Reukauf, says the Herron *Herald,* explained that the company had only recently purchased the holdings of the Hughes Electric Company and, in an effort to give adequate service over the new lines and to make the many new improvements that the rapidly expanding system required of the company, had not had time to study the rate situation as they are now studying it. Now, however, that the matter of giving efficient service has been attended to the subject of rates will be investigated without delay.

Ohio

Gas Service Charge in Toledo

A PROPOSAL to eliminate the 75-cent ready-to-serve charge of the Northwestern Ohio Natural Gas Company has been introduced in the Toledo city council. The measure, says the Toledo *News-Bee,* would provide for continuation of the present gas rates with the service charge eliminated for the next two years.

The sponsor of the ordinance has pointed out that the ordinance authorizing the service charge has expired and the law department is requested to determine by what authority it has been permitted to continue in effect after the expiration date.

Interurban Fare Increase Suspended

THE Commission on February 26th announced the suspension of the increased fares of the Wheeling Traction Company on the Ohio side until April 2nd. The company had filed these rates to become effective March 3rd.

A hearing was scheduled for March 21st at Columbus. Several protests have been filed against the change in rates.

Water Rate Question to Go to Commission

THE Uhrichsville city council on February 19th virtually decided to await the decision of the Commission on the question of increased rates for the Dennison Water Supply Company. It is reported that the Dennison city council may meet with the Uhrichsville council to decide just what definite steps will be taken as a result of findings by T. D. Pierce, Commission engineer, in which he indicates that an increase in rates to boost the company's annual income at least $8,000 should be allowed.

Oregon

Legislature Kills Bill to Reduce Telephone Rates

A BILL providing for a 25-per cent reduction in telephone rates in Oregon was killed by the vote of twenty-four of the thirty Senators on February 19th, it is reported in the Salem *Capital Journal*. The central thought of the bill, it is stated, was that its passage would immediately throw the whole matter into the courts with the result that all evidence, including that gathered by the Portland city council and by the Commission, would be available.

The courts, said Senator Upton, the sponsor of the bill, would either hold the bill valid or invalid as confiscatory of property. Senator Upton lauded Commissioner Louis E. Bean of the Public Service Commission as a man of integrity. He said further:

"I don't believe the trouble is that the officials are not trying to do their duty. We never have furnished enough money to the Commission to enable them to get to the bottom by investigation. If you want a real determination of this question, you must do one of two things: do it yourselves or give the Service Commission enough money to do it.

"I am frank to say that if this bill passes, it will immediately involve the state in a lawsuit with the telephone company. But we must have court action to determine the validity of things done here. This is a better bill than the home rule bill. It's purpose is to get rid of this camouflage; this boloney and all this political trading. My bill will bring the whole thing into the open. If we have a Public Service Commission investigation, we will simply get a report that only half the people will believe. The other half will believe the Commission sold out."

The opinion was expressed by others that the bill proposed an unreasonable reduction in revenues and that it would be unjust by legislative fiat to take away abruptly that amount of income. It was predicted that the courts would enjoin the courts from enforcing the bill, if it were passed, on the ground that it would result in confiscating the property of the telephone company.

Senator Moser, opposing the bill, said it was important because by it "we are going to say whether we try to fool the people and ourselves. I think the telephone rates are too high, but I am not going to stultify myself by voting for a measure that I consider all bunk. I know the newspapers are printing double-column, heavy-type editorials challenging us to come to the aid of the people, but I am not going to be influenced by that. I am not going to stain my integrity after sixteen years' service in this senate."

Pennsylvania

Delay in Water Rate Case

CRITICISM in localities served by the Scranton-Spring Brook Water Service Company because of the delay in terminating the proceedings on the application for higher rates was met on February 28th by a statement of Commissioner J. W. Brown that the Commission was ready and willing to sit at all times to bring the case to a speedy conclusion. Commissioner Brown, on behalf of the entire Commission, again urged on all parties the need for a speedy preparation and conclusion of the case.

Attorney Berne Evans, of the water company legal staff, said that the company was anxious to co-operate in any way possible in order to bring an early decision. Attorney John R. Geyer, chief counsel for the complainants, accepted on behalf of the complainants responsibility for delay but said that they did not accept the blame since the matter had been entirely beyond their control because of the unprecedented magnitude of the work falling to the lot of the municipalities' lawyers, engineers, and accountants.

The company's case was practically completed on February 28th, after a series of rate hearings from time to time since last June. The case of the complainants is expected to be started during the latter part of March. The company has been charging, under a temporary order, rates in excess of the former rates but lower than those for which it is contending.

New Public Utility Bills

THE agitation in Pennsylvania against water rate increases has resulted in the introduction into the legislature of two bills aimed at the charges of public utility companies. One of these bills, introduced by Representative W. D. Pethick of Wayne county, would amend the Public Service Company Law so as to prevent the collection of money from water users in addition to the regular rate while applying to the Commission for an increased rate.

Another bill, introduced by representative Willard Shortz of Kingston, would deny public utility companies the right to collect a penalty greater than the legal rate of interest when patrons fail to pay bills. This seems to be an outgrowth of the controversy started when consumers were urged to refuse payment of increased rates of the Scranton-Spring-Brook Water Service Company.

Service Charge Draws Fire from Mayor

MAYOR Luther S. Crawford of Uniontown, says the Pittsburgh *Press,* has announced that he will oppose the Fayette County Gas Company's 50-cent service charge. The mayor charges that the company in reducing its former rate of 57 cents per thousand cubic feet to 54 cents really raised the rate 30 cents for persons who used 4000 cubic feet of gas—that is, including the 50-cent charge.

It is reported that Connellsville and Scottdale officials will also join the opposition to the utility's rate schedules if the company insists upon enforcing the service charge in spite of the expressed opposition to it.

Rhode Island

Electric Rates to Be Lowered

NEW rate schedules filed with the Commission by the Narragansett Electric Company on February 28th, it is stated in the Providence *Bulletin*, will benefit domestic consumers but not the smaller consumers. The charges are to be made in proportion to the amount of electricity used.

The principal advantage of the new rates to the average domestic consumer will be the option of using one of two rate schedules. Customers using more than sixty kilowatts will benefit by using one of the schedules, while small consumers will benefit by continuing to use the other schedule. It is said that the consumers will save more than $70,000 annually under the new rates.

West Virginia

Hearing on Fare Increase Set

THE Commission on February 28th announced that it would hold a hearing on the proposed increase in fares of the Wheeling Traction Company on March 18th. The postponement from February 28th was at the request of the Wheeling city council which sought the delay in order to permit the completion of an investigation by the city into the company's petition.

The increased tariffs under consideration would mean a charge of 50 cents for eight tokens instead of 50 cents for 10 tokens as at present. A formal protest has been received by the Commission from the city of Bellaire along with that of several local organizations, it is stated in the Wheeling *Register*. At a meeting of merchants in the city of Wheeling, however, the feeling was expressed that whatever fare is just should be established, and that any increase in the present rate indicated as justified by careful examination of all facts involved, should be supported.

Wisconsin

Street Car Fares in Milwaukee

THE Commission on February 25th opened hearings on the plea of the electric company for higher car fares in Milwaukee. The city of Milwaukee and suburban towns and townships surrounding that city are opposing the increase.

W. A. Jackson, vice-president of The Electric Company, stated that the company's yearly income through street car fares would have to be increased about $1,000,000 if the 7½ per cent income allowed by law were to be reached; but instead of a horizontal increase in fares for all riders, he proposed a minimum fare to the regular rider and an increased fare to the convenience or occasional rider who takes advantage of the street cars only during bad weather or some emergency. He told the Commissioners that the company did not desire to make any suggestions for increases, but that it aimed only to place figures and statistics before the Commission and let the Commission draw its own conclusions.

The company disclaims any intention to increase the revenue of its entire operation but has indicated that if fares are increased so that the street railway can stand on its own feet, electric rates will be reduced.

Public Utilities Reports

COMPRISING THE DECISIONS, ORDERS AND RECOMMENDATIONS OF COURTS AND COMMISSIONS

VOLUME 1929B NUMBER 1

Points of Special Interest

THE *decisions, orders and recommendations of Courts and Commissions, as printed on the pages following, conform to the standard size, proportions, and typographical arrangement observed in law reports generally. The pages are numbered, for the purpose of citation, as they will later appear in the bound volumes*

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PUBLIC UTILITIES REPORTS

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DISTRICT OF MASSACHUSETTS.

WORCESTER ELECTRIC LIGHT COMPANY

v.

HENRY C. ATTWILL et al.

[Equity No. 2840.]

(— F. (2d) —.)

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22. An allowance of 1 per cent of the cost of the physical property of an electric company was made in an estimate of the reproduction cost thereof, for organization expenses, p. 56.

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Valuation — Reproduction cost — Going value.

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Depreciation — Purpose of reserve.

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Depreciation — Purpose of reserve.

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40. It is necessary in order to ascertain whether or not a Commission order restricting only residential and commercial lighting rates results in the confiscation of an electric company's property to apportion the revenue allocable to such classes of service from power rates or other classes of service not affected by the order, p. 89.

Constitutional law — Confiscation by Commission order.

41. The mere fact that a utility's entire net income from its electric service is not an adequate return on the fair value of its property does not entitle the company to enjoin the enforcement of a Commission order restricting only certain classes of rates where it is not shown that the act of the Commission is responsible for the inadequacy, p. 89.

Constitutional law — Estoppel to claim constitutional right.

Statement that regardless of its acts a utility would not be estopped to claim its constitutional right to a fair return based on reproduction cost less depreciation in the rate base, p. 19.

Rates — Contract — Power of utility to impair ability to serve.

Statement that it is doubtful whether a public utility can deprive

itself, whether by contract or by representation, of its rights to make such charges in the future as might be necessary to enable it to perform the services to the public, which it has undertaken, p. 20.

[February 11, 1929.]

SUIT in equity by an electric utility seeking to restrain enforcement of a rate reduction order of the Department of Public Utilities; denial of injunction recommended by the Special Master in accordance with the conclusions herein.

Warner, Special Master: This is a proceeding in equity seeking to enjoin the enforcement of an order of the defendants fixing the net maximum price to be charged by the plaintiff for electricity sold by it in the city of Worcester, and to have such order declared void on the ground that it is confiscatory and in violation of the plaintiff's rights under the 14th Amendment to the Constitution of the United States.

A temporary injunction against the enforcement of the order was granted by the Special Statutory Court, consisting of Bingham and Johnson, C.JJ., and Lowell, D.J.

The case was referred to me as Special Master by an order directing me "to hear the parties and their evidence, find all the material facts, and report to the Court his findings of fact and conclusions of law, together with his recommendations as to the decree to be entered; and he shall report to the Court all the testimony and evidence received by him."

Pursuant to said order hearings were had. Forty-one days were consumed in the taking of evidence, which is embodied in a stenographic report of 3,904 pages, and in numerous elaborate, detailed and complicated exhibits, and thereafter the case was argued by counsel for three full days.

The plaintiff is a corporation organized in 1884 under the General Laws of Massachusetts for the purpose of furnishing electric light and power. It is engaged in the business of manufacturing, distributing, and selling electric energy for light and power in the city of Worcester and in the adjoining town of Leicester, and for that purpose owns and operates an extensive plant for the manufacture and distribution of electricity. In connection with a substation in Worcester it also owns and oper-

ates a small steam-heating plant, known as Chase Court. It furnishes electric energy for lighting, heating, cooking, and power, to approximately 53,000 customers, and also for street lighting and traffic signals to the city of Worcester.

The defendants constitute the Commission of the Department of Public Utilities of the Commonwealth of Massachusetts, established under Chap. 25 of the General Laws of said Commonwealth.

The General Laws of Massachusetts (1921) Chap. 164, § 93, provided that upon complaint made, and after hearing, the Department "may order any reduction in the price of gas or electricity" and that "The maximum price fixed by such order shall not thereafter be increased by said company except as provided in the following section."

Section 94 provided that the company may apply to the Department to fix and determine the price of gas or electricity to be thereafter sold and delivered by said company, or to revise any former order or action of the Department relative to the quality or price thereof," and that after notice and hearing the Department "may pass such orders relative to the price and quality of the gas or electricity thereafter to be furnished by said company as it deems just and reasonable. Such orders shall be binding upon all parties until further order of the Department."

These sections were amended by Chap. 316 of the Acts of 1927, pp. 379, 380, so as to provide that upon complaint made and after notice and hearing the Department "may order any reduction or *change,*" etc., and also that "Such an order may likewise be made by the Department, after notice and hearing as aforesaid, *upon its own motion*" (italics mine), and requiring the company to file with the Department, in such form as the Department prescribes, schedules showing all rates, prices, and charges, which rates, prices, and charges may be changed by the company by filing a schedule setting forth the changes, which shall not become effective until the first day of the month next after the expiration of fourteen days from the filing, unless the Department otherwise orders, and which shall apply to meter readings after the effective date *unless the Department otherwise*

orders, and authorizing the Department to investigate the propriety of any proposed charge, and pending such investigation to suspend the proposed rate for not more than six months. It was also provided that "An order by the Department directing a change in any schedule filed shall have the same effect as if a schedule with such changes were filed by the company, and shall become effective from such time as the Department shall order."

This Act of 1927, carried the emergency preamble and, therefore, became effective upon its approval, April 26, 1927.

No question was raised that the Department had not complied with these sections.

On June 3, 1927, the plaintiff had in effect rates for electric energy to be charged in Worcester as follows:

Schedule A.

Residential Lighting Rate, $.08 per kilowatt hour with a minimum charge of $9 a year per meter, payable monthly.

Schedule B.

Yearly Commercial Rate.

For the first 1,400 kw. hr. used per month, $.08 per kilowatt hour.

For any part of the next 1,400 kw. hr. used per month, $.055 per kilowatt hour.

For any part of the next 1,700 kw. hr. used per month, $.045 per kilowatt hour.

For 4,500 kw. hr. or more used per month on this schedule, $.059 per kilowatt hour with a minimum charge of $9 a year per meter, payable monthly.

Schedule C.

Optional Electric Rate.

This provides for a fixed charge of $45 per year for the first 40 kw., $30 per year for the next 40 kw. and $24 per year for all kw. exceeding 80, with a charge for current at $.025 per kw. hr. up to and including 5,000 kw. hr. per month and $.02 per kw. hr. for any part of the next 5,000 kw. hrs. used per month, and $.015 for all electricity exceeding 10,000 kw. hrs. per month with a minimum charge of the demand charge.

Schedule F.

Residential Cooking, Heating, and Refrigeration Rate.

For the first 20 kw. hrs. used per month, $.08 per kilowatt hour; and for each kw. hr. in excess of 20, $.05 per kilowatt hour with a minimum charge of $1.00 per month per meter.

Schedule I.

Power Rate.

For the first 50 hrs. use per month for each kw. of the maximum demand, $.08 per kilowatt hour.

For each kw. used in excess of the first 50 hrs. use of the maximum demand, $.025 per kilowatt hour.

This schedule has a discount based on the maximum yearly kilowatt demand ranging from 0% from 1 to 7 kw. up to 50% for 225 kw. and over.

This rate has a minimum charge on connected load basis ranging from $1.35 per month for 1½–7½ kilowatts to $.65 per month for 75 kilowatts and over, and also a minimum charge of $5 a month for X-ray machines.

Schedule J.

Five-year Power Rate.

This is the same as Schedule "I" except that it allows greater rates of discount above 76 kw.

Schedule R.

Industrial and Commercial Heating and Cooking Rate.

For the first 20 kw. hrs. used per month, $.08 per kilowatt hour.

For all in excess of 20 kw. hrs. per month, $.04 per kilowatt hour.

Schedule S.

Residential Lighting, Heating and Cooking Rate (Optional).

First block, $.08 per kilowatt hour.

Excess, $.04 per kilowatt hour, the amount of kw. hr. per month required to be used in the first block varying with the number of rooms.

This rate has a minimum charge ranging from $2 to $3.50 per month according to the number of rooms.

On bills paid within fifteen days from date a discount of $.01 per kilowatt hour is allowed in Schedules "A," "B," "F," "R," and "S," and a similar discount of $.005 is allowed in Schedule "C," and of 10 per cent in Schedules "I" and "J."

Rates were in effect to be charged for Leicester similar to Schedules "A," "F," and "I," except that in each the $.08 charge was raised to $.09, and with similar discounts for prompt payment.

In all cases provision was made for a minimum charge.

These rates also contained a so-called "coal clause" providing that in addition to the rates the company should be paid one thousandth of a cent per kilowatt hour for each one cent that the cost of bituminous coal of 14,500 B.T.U. as received per pound exceeds $6 per gross ton.

On June 3, 1927, the defendants made the following order: "*Ordered:* That the net maximum price of electricity to be hereafter charged by the Worcester Electric Light Company for electricity sold by it [in the city of Worcester], be and hereby is fixed at 5 cents a kilowatt hour, such price to apply to all bills rendered on account of meter readings subsequent to June 15, 1927." (P.U.R.1927C, 705, 721.)

It is this order of which the plaintiff complains.

This order was intended by the Department to affect only the Schedules "A" and "B," covering residential and commercial lighting. Taken literally it might seem to affect in some degree some of the other schedules, and to avoid any uncertainty as to this, the plaintiff refiled and resubmitted to the Department such other rates, and they were approved by the Department, thus leaving rates "A" and "B" as the only ones affected by the order.

[1] In approaching the determination of this case it must be understood clearly at the outset that it is not a question of fixing the rates to be charged by the plaintiff for the sale of its electricity. The fixing of rates to be charged by a public utility is not the function of the United States Courts, and the jurisdiction of this Court is not appealed to for that purpose.

The fundamental basis of the plaintiff's appeal to this jurisdiction is that the order of the Commission so regulates and

restricts its charges that it cannot earn a net sum which will be just compensation for the use of its property.

"The question in the case is whether the rates prescribed in the Commission's order are confiscatory and, therefore, beyond legislative power. Rates which are not sufficient to yield a reasonable return on the value of the property used at the time it is being used to render the service are unjust, unreasonable, and confiscatory, and their enforcement deprives the public utility company of its property in violation of the 14th Amendment. This is so well settled by numerous decisions of this Court that citation of the cases is scarcely necessary." Bluefield Water Works & Improv. Co. v. Public Service Commission, 262 U. S. 679, 690, 67 L. ed. 1176, P.U.R.1923D, 11, 18, 43 Sup. Ct. Rep. 675; Public Utility Comrs. v. New York Teleph. Co. 271 U. S. 23, 70 L. ed. 808, P.U.R.1926C, 740, 46 Sup. Ct. Rep. 363.

In its latest decision on this subject (McCardle v. Indianapolis Water Co. 272 U. S. 400, 408, 71 L. ed. 154, P.U.R. 1927A, 15, 22, 47 Sup. Ct. Rep. 144) the Supreme Court of the United States has said: "It must be determined whether the rates complained of are yielding and will yield, over and above the amounts required to pay taxes and proper operating charges, a sum sufficient to constitute just compensation for the use of the property employed to furnish the service; that is, a reasonable rate of return on the value of the property at the time of the investigation and for a reasonable time in the immediate future." And again, pp. 410, 411, 412: "It is well established that values of utility properties fluctuate, and that owners must bear the decline and are entitled to the increase. The decision of this court in Smyth v. Ames, 169 U. S. 466, 547, 42 L. ed. 819, 18 Sup. Ct. Rep. 418, declares that to ascertain value 'the present as compared with the original cost of construction' are, among other things, matters for consideration. But this does not mean that the original cost or the present cost or some figure arbitrarily chosen between these two is to be taken as the measure. The weight to be given to such cost figures and other items or classes of evidence is to be determined in the light of the facts of the case in hand. By far the greater part of the company's land

and plant was acquired and constructed long before the war. The present value of the land is much greater than its cost; and the present cost of construction of those parts of the plant is much more than their reasonable original cost. In fact, prices and values have so changed that the amount paid for land in the early years of the enterprise and the cost of plant elements constructed prior to the great rise of prices due to the war do not constitute any real indication of their value at the present time. Standard Oil Co. v. Southern P. Co. 268 U. S. 146, 157, 69 L. ed. 890, 45 Sup. Ct. Rep. 465; Georgia R. & Power Co. v. Railroad Commission, 262 U. S. 625, 630, 631, 67 L. ed. 1144, P.U.R.1923D, 1, 43 Sup. Ct. Rep. 680; Bluefield Water Works & Improv. Co. v. Public Service Commission, *supra,* 691, 692; Missouri ex rel. Southwestern Bell Teleph. Co. v. Public Service Commission, 262 U. S. 276, 287, 67 L. ed. 981, P.U.R.1923C, 193, 43 Sup. Ct. Rep. 544, 31 A.L.R. 807. Undoubtedly, the reasonable cost of a system of waterworks, well-planned and efficient for the public service, is good evidence of its value at the time of construction. And such actual cost will continue fairly well to measure the amount to be attributed to the physical elements of the property so long as there is no change in the level of applicable prices. And, as indicated by the report of the Commission, it is true that, if the tendency or trend of prices is not definitely upward or downward and it does not appear probable that there will be a substantial change of prices, then the present value of lands, plus the present cost of constructing the plant, less depreciation, if any, is a fair measure of the value of the physical elements of the property. The validity of the rates in question depends on property value January 1, 1924, and for a reasonable time following. While the values of such properties do not vary with frequent minor fluctuations in the prices of material and labor required to produce them, they are affected by and generally follow the relatively permanent levels and trends of such prices. The fact that original cost was probably 12 to 20 per cent less than the estimate of the Commission's engineer based on the average of prices for the ten years ending with 1921—two years before the rate order became effective—

does not tend to support the Commission's adoption of that estimate. The cost of reproduction on price levels prevailing January 2, 1923 was found to be 30 to 35 per cent or from $4,500,000 to $5,000,000 more. The average of prices in the ten years ending with 1923—the effective date of the rate order—was shown by the testimony of the Commission's chief engineer to produce a result nearly 14 per cent higher than the figure adopted; and, on the basis of prices prevailing on the effective date of the order, cost of reproduction less depreciation would be about 32 per cent higher than that taken by the Commission. The high level of prices and wages prevailing in 1922 and 1923 should be taken into account in finding value as of January 1, 1924 and in the years immediately following. Moreover, there is nothing in the record to indicate that the prices prevailing at the effective date of the rate order were likely to decline within a reasonable time —one, two, or three years—to the level of the average in the ten years ending with 1923. And we may take judicial notice of the fact that there has been no substantial general decline in the prices of labor and materials since that time. The trend has been upward rather than downward. The price level adopted by the Commission—the average for ten years ending with 1921—was too low. And it is clear that a level of prices higher than the average prevailing in the ten years ending with 1923 should be taken as the measure of value of the structural elements on and following the effective date of the rate order complained of."

[2] Various criticisms have been made and difficulties pointed out, both by courts and Commissions, regarding the adoption of the present value of the property as the rate base, and especially as to the use of the method of reproduction new less depreciation for arriving at present value. Nevertheless, as the decisions of the Supreme Court now stand, it seems clear that Federal Courts must determine the question of confiscation by reference to present value, and that, in cases like the present, the reproduction value less depreciation is a fair measure of that value, and in the absence of special controlling circumstances, it may be considered as the dominant element. Monroe Gas Light & Fuel Co. v. Michigan Pub. Utilities Commission, 292 Fed. 139, 142, P.U.R. P.U.R.1929B.

1923E, 661; New York Teleph. Co. v. Prendergast, 300 Fed. 822, 824, 825, P.U.R.1925A, 491; Monroe Gas Light & Fuel Co. v. Michigan Pub. Utilities Commission, 11 F. (2d) 319, 321, P.U.R.1926D, 13; Columbus Gas & Fuel Co. v. Columbus, 17 F. (2d) 630, 632, P.U.R.1927C, 639; Temmer v. Denver Tramway Co. 18 F. (2d) 226, 228 (C. C. A. 8th Circ.).

It is clear that the value we are concerned with is the *present value* of the property employed to furnish the service.

However the present value may be arrived at, and whatever weight may be given to various elements tending to show that value, the ultimate thing to be arrived at must be the value at the time the order complained of in this case became effective, that is, June 15, 1927, and thereafter.

[3] Counsel for the defendants contend that there has been established in Massachusetts a practice and method with regard to regulation of public utilities by which the determination of the rate base upon which fair return is to be earned is to be largely affected, if not practically controlled, by the so-called prudent investment theory, and that the constitutional right of the utility is limited, or affected thereby, or must be interpreted with reference to that situation.

The opinion of the Statutory Court rendered in connection with the issuing of a temporary injunction seems to me to have disposed of this question adversely to the contention of the defendants. Worcester Electric Light Co. v. Attwill, 23 F. (2d) 891, P.U.R.1927E, 796.

If the question is still open before me, I am unable to agree with counsel for defendants.

[4] The question to be determined in this Court is the interpretation and application of the rights of the utility under the Constitution of the United States.

[5] The decisions of the Supreme Court, which are controlling on this Court, have clearly established the constitutional right of a utility to be protected against regulation which will prevent it from earning a return based upon the present value of its property. This constitutional right is a restriction on the power of the state to regulate, and I am unable to see that the

restriction is any less effective against a regulation by definition or determination of the rate base, than it is against a regulation by definition or determination of the rate itself.

[6] To hold that a state, in the exercise of the power of regulation, may substitute something else for the value of the property, which has been determined to be the measure of the constitutional protection, would seem to me to nullify the protection, even though that something else be the amount prudently invested, for, *ex hypothesi,* the amount of prudent investment differs from the present value of the property, or no question arises. The suggestion that the prudent investment theory is only a means of determining the present value of the property lacks reality, for it is avowedly a means of escaping from taking present value as the rate base.

[7] It may well be doubted whether the exercise of the regulatory power by the Massachusetts legislature purports, or was intended to have any bearing on the interpretation and application of the right of the utility to protection under the Constitution of the United States. It may be conceded that the legislature intended to restrict the issue of stock in excessive quantities, and at unduly low prices, without conceding that the constitutional protection is affected thereby.

I quote from Valuation of Public Service Corporations, Whitten-Wilcox, 2d Edition, Vol. 1, as follows (italics mine):

P. 67: "There may be also a close relationship between valuation for reorganizations, consolidations, and original stock and bond issues and valuations for rate making and public purchase. But such a relationship, where it exists, rests primarily upon the acceptance of actual cost as a basis for all these valuations. *Where reproduction cost is given weight in valuations for rate making and public purchase, and capitalization continues to be based upon actual cost under a true system of accounting, this relationship is destroyed.*"

P. 68: "The 'Massachusetts rule' with respect to valuation is this: 'It is the money honestly and prudently invested and devoted to the public service that is entitled to earn a fair return.' (Citing P.U.R.1925E, 739, 744.) This rule has been

applied to gas and electric companies, street railways, and all other utilities in Massachusetts. In the country generally, the fundamental distinction for present purposes between value for capitalization and value for rate purposes and for public purchase is that *the rules as to accounting and capitalization are subject entirely to the control of the various Commissions and legislatures. They involve no constitutional rights. The basis of valuation for rate purposes and for public acquisition through condemnation or arbitration proceedings, on the other hand, is being fixed by the United States Supreme Court, and that body has shown a disposition to give short shrift to the Massachusetts rule when Commissions have attempted to apply it in other states.*"

P. 75: "It is apparent that 'value' as the term is used in connection with rate making and the fixing of compensation for public utilities is not equivalent to the economic concept of value in exchange. Rather it is *fair* value or *just* compensation, which are legal, not economic concepts. They cannot be defined except in terms of law and judicial decisions; in fact 'fair value,' and 'just compensation' get their definition from the findings of the Commission or the court in each particular case *and with reference to the particular purpose for which the enquiry is made.*"

See also Temmer v. Denver Tramway Co. 18 F. (2d) 226 (C. C. A. 8th Circ.) where it was held that the value for rate-making purposes has no necessary relation to actual value, and that a utility might be held to be insolvent although its value for rate-making purposes might exceed the aggregate amount of its liabilities. In that case the Court says:

P. 228: "An examination of the constituent elements which go to make up value for the purpose of determining a rate of fares to be charged in order to obviate confiscation discloses, aside from the practical difficulties of the situation, that the rating base value furnishes no proper or legal criterion on which to bottom actual value. The former, roughly speaking—according to the Supreme Court, which concludes us—is, as to physical elements, bottomed on present value of lands held, plus present stable cost of constructing the plant, less depreciation for use

since construction, plus a fair allowance for going value, for intangible elements, and for working capital."

In 1912 the Board of Gas and Electric Light Commissioners, which at that time was the regulating Commission in Massachusetts, after reviewing the acts of the Massachusetts legislature in reference to the control of public utilities, said:

"This review of the acts of the legislature indicates an early recognition of the business as a virtual monopoly, and imposes upon it a considerable measure of restraint, supervision, and regulation. The legislative purpose to prevent the issue of stock for anything besides cash, or, in the earlier years, property actually contributed by the stockholders, is plain. The prohibition of stock dividends, and the provisions for the sale of additional stock at auction or its distribution to the stockholders at its market value, or, as now, at a price not so low as to be inconsistent with the public interest, are also indications of an early and consistently maintained purpose to prevent surpluses accumulated out of earnings becoming the basis, directly or indirectly, for the issue of stock.

"On the other hand, it is equally to be noted that no specific limitation has ever been placed upon rates or dividends with a view possibly of rewarding zeal in the skillful and intelligent conduct of the business, and imposing upon the directors, subject to the check of public opinion, a consideration of the welfare of the shareholders and the equities of consumers in the surplus to which they had contributed. As market value is influenced by the rate of dividends declared, the requirement that additional stock shall be issued at a premium seems also an acknowledgment that dividends may be paid on the par of the stock at a rate in excess of the return ordinarily required by investors for the use of their money. The fact that this last feature of the law has been preserved long after an express authority was granted to this Board to reduce the price of gas is significant, too, of a legislative view that these two methods of regulation are not inconsistent. This body of legislation is plainly designed to allow no capital stock to be issued save for physical property necessary for proper corporate purposes, to keep the authorized increase of capital stock as low as market and other conditions

warrant, to compel publicity of corporate affairs, and, on the other hand, to secure the community from the wasteful effects of competition by the exclusion of others from territory already adequately and efficiently supplied, and to provide, upon complaint, a compulsory reduction in price, and so to create a status favorable to low rates and adequate service. *There is nothing in this legislative policy which violates or countenances the violation of the company's constitutional right to 'a fair return upon the value of that which it employs for the public convenience.'"* (Italics mine). Re Haverhill Gas Light Co. 28 Ann. Rep. Mass. G. & E. L. C. (1912) 41, 57.

And again in 1913: "The proposition so clearly stated by the Federal Supreme Court that a company of this character is entitled to a reasonable return upon the value of the property which it is actively and necessarily employing for the public convenience has been everywhere accepted as just and reasonable. For fundamental reasons no statement of equal authority has been laid down as to the amount, rate, or percentage which constitutes such return, since it must evidently be affected by the time, place, and conditions under which the question arises. Neither, so far as we are aware, is there any generally accepted and adequate rule by which the value of the property for this purpose must be determined." Re Attleborough Gas Light Co. 29 Ann. Rep. Mass. G. & E. L. C. (1913) 16, 18.

[8, 9] Whatever the purpose or the intent of the state legislature or state regulating bodies may be it seems to me that it is clearly limited, restricted, and controlled by the constitutional right of the utility to be protected in the use of its *property*. It is the right to the *property* and not some substituted conception which is protected by the Constitution.

In my opinion the right of the plaintiff to be protected against the enforcement of rates giving less than a fair and reasonable return upon the present value of its property used in rendering the service is not affected by the acts of the Massachusetts legislature or regulating Commission, and I so rule.

[10] Counsel for the defendants also contend that the plaintiff is estopped to claim a rate base on other than the prudent investment theory, or to claim reproduction cost less depreciation

as a rate base, and they base this contention on the fact that the plaintiff has had the benefit of the Massachusetts laws as to protection from competition, and as to the issue of its stock at prices fixed by the Commission, with such implications as may follow. They also contend that certain evidence, material and statements furnished by the company to the Commission in connection with applications for issues of additional stock and the fixing of its price amount to representations by the company which estop it from now claiming the present value of its property as a rate base.

I am unable to adopt the view of defendant's counsel as to these matters, which seem to me to be nothing more than compliance on the part of the plaintiff with the requirements of the law as to issue of stock, with the incidental information as to existing conditions as to increases and additions to property made and contemplated, as to financial conditions, earnings, dividends, paid and intended in the future, etc., but even if it were otherwise, I do not think there would be an estoppel.

The Supreme Court of the United States has said (Southern Iowa Electric Co. v. Chariton, 255 U. S. 539, 541, 65 L. ed. 764, P.U.R.1921D, 275, 277, 41 Sup. Ct. Rep. 400):

"Two propositions are indisputable: (a) That although the governmental agencies having authority to deal with the subject may fix and enforce reasonable rates to be paid public utility corporations for the services by them rendered, that power does not include the right to fix rates which are so low as to be confiscatory of the property of such corporations; (citing cases;) and (b) that where, however, the public service corporations and the governmental agencies dealing with them have power to contract as to rates, and exert that power by fixing by contract rates to govern during a particular time, the enforcement of such rates is controlled by the obligation resulting from the contract, and, therefore, the question of whether such rates are confiscatory becomes immaterial." (Citing cases.)

In that case, in which the rate was specified in a municipal ordinance, the Court held that: "Assuming, for the sake of the argument only, that the public service corporations had the contractual power" (at p. 278 of P.U.R.1921D) the municipal cor-

poration under the laws of that state had no such power, and the utility was entitled to the constitutional protection.

The right to contract as to rates, involving as it does the suspension of the police power, is not to be assumed.

"The grant of the regulatory power over rates by the legislature to a Commission or municipality must be strictly construed, and must not be extended by inference. The suspension of police power over rates cannot be accomplished by implication. The legislative authority must be plain, and the intention must clearly and unmistakably appear." Interborough Rapid Transit Co. v. Gilchrist, 26 F. (2d) 912, 918, P.U.R.1928D, 92, 105.

See also Home Teleph. & Teleg. Co. v. Los Angeles, 211 U. S. 265, 53 L. ed. 176, 29 Sup. Ct. Rep. 50.

"The guaranty of due process of the 14th Amendment protects the right of a public utility to a fair return. There is but one limitation upon the right, namely, that it has not been contracted away pursuant to clear and unmistakable legislative authority to suspend the police power over rates. . . .

"The return guaranteed by the constitution is upon the property devoted to public use. The determination of what rate should be prescribed, which will yield a return that is fair and reasonable, depends upon the present value of the property used." Interborough Rapid Transit Co. v. Gilchrist, *supra*, 26 F. (2d) at pp. 924, 925, P.U.R.1928D, at pp. 118, 120.

Whether a public utility can deprive itself (whether by contract or by representations) of the right to make such charges in the future as may be necessary to enable it to perform the services to the public which it has undertaken, may be doubtful.

[11] That a regulating Commission cannot contract as to future rates, unless specifically thereto authorized by the legislature, is established by the above citations. I have been referred to no statute or authority giving to the Massachusetts regulating Commission such contractual power, and I am aware of none.

[12] It follows that even if the plaintiff had attempted by express contract with the Commission to restrict its right to rates in the future to those which might be determined by a base other than that of the actual value of its property, it would still be en-

titled to the protection of the Constitution against the enforcement of such rates.

[13] Even if the facts were to be interpreted otherwise than I have interpreted them above, I think that which cannot be accomplished by attempted contract cannot be accomplished by estoppel.

In this connection it is perhaps proper to refer to Fall River Gas Works v. Gas & Electric Light Comrs. 214 Mass. 529, 102 N. E. 475, where the functions of the Department in the matter of the issue of stock are discussed.

I find and rule that the plaintiff is not estopped to claim the present value of its property as the rate base.

History of Company.

It is convenient at this point to consider the history of the company. In 1888 it had a capital stock of $100,000 par value, fully paid. From time to time thereafter this was increased until in 1921 it amounted to $2,400,000, consisting of 24,000 shares with a par value of $100 each, fully paid in. Much of the existing capital was issued at a premium above its par value, and the amounts so received as premium in the aggregate amount to $1,658,232, so that the entire capital represented by the payments received by the company for its capital stock amounts to $4,058,232. A large part of this stock was issued at prices fixed by the Massachusetts Commission charged with the regulation of electric light companies. It appeared that the price at which new shares should be issued was fixed by the Gas and Electric Light Commission at $130 per share in 1898, $140 in 1900, $150 in 1901, $160 in 1907, at $200 in 1910, 1912, 1913, 1914, 1916. In 1919 the Commission authorized the issue of 4,000 additional shares at $185 to stockholders, of which 3,608 shares were taken by stockholders at that price, and the balance, 392 shares, were sold at public auction in Boston for $206 a share; and in 1921 the price fixed by the Commission for 4,000 shares was $155 per share, all of which was taken by stockholders.

In 1925 the par value was changed to $25 a share and the total number of shares increased to 96,000 shares, leaving the total capitalization as before.

The plaintiff has a central power station in Worcester, with several substations, and a distributing system throughout the city of Worcester and the town of Leicester, with appropriate overhead and underground equipment for distribution. It also supplies the street lighting and the traffic signal systems, for both of which it has the appropriate equipment. In the year 1927 it sold 93,692,051 kilowatt hours of electricity. It serves approximately 53,000 customers, the number of customers' meters outstanding on July 1, 1927, being 52,699. From 1887 to 1893 for lighting the company charged a flat rate of $1.50 a month per lamp to domestic consumers, and in 1894 changed the basis to a net maximum rate of 20 cents per kilowatt hour, at which figure it remained until 1901, when it was reduced to 15 cents; the net maximum rate for Worcester was again changed March 1, 1906 to 12 cents; April 1, 1913, to 10 cents; April 1, 1917, 8 cents; May 1, 1919, 7½ cents; November 1, 1920, 9 cents; March 1, 1921, 8 cents; June 1, 1923, 7½ cents; September 1, 1925, 7 cents. On April 1, 1928, since the commencement of this suit, the plaintiff voluntarily reduced its net maximum rate for light in Worcester from 7 cents per kilowatt hour to 6 cents per kilowatt hour. The power rates began in 1898 at 10 cents, and were changed in 1907 to 8 cents, 1910 to 6 cents, April 1, 1913 to 8 cents per kilowatt hour for the first 50 hours plus 2½ cents thereafter.

The company has regularly paid dividends and has a substantial surplus. It has been well managed and its property has been well maintained and efficiently operated.

At the time the order was made there was no other electric company in Massachusetts, whose net maximum rate was as low as 7 cents, and at the time of the hearing before me (May, 1928), with exception of the Cambridge Electric Light Company, whose rate was ordered by the Department to be reduced to 5½ cents, there was no other company whose rate was less than 6 cents, and only one other, the Springfield Company, whose rate was below 7 cents.

In 1897 one of the members of the State Regulating Commission at a hearing before the Commission said of this plaintiff: "that it was the best managed company in the state, credit-

able to every man that has had anything to do with its policy in management."

Again in 1901, one of the Commissioners said "that he did not want to be understood as taking the position that the company was not entitled to a generous reward for the enterprise and public spirit of the corporation; on the contrary he regarded it in its management and in the method in which it has been dealing as forward as any he knew."

And in an opinion in July, 1927 (P.U.R.1927D, 620, 622) the present Commission says of the plaintiff that it "has been and is now in the best of financial condition, has a very capable management, and is very efficiently operated."

I think it cannot be questioned that the plaintiff not only has been very successful and profitable to its owners, but that it has been unusually well managed and very efficiently operated, and has supplied electric energy to the public at prices which are as low, or lower, than those of other companies in the state.

Prior to the taking of any evidence I went to Worcester with counsel for the parties and took a view of the various parcels of real estate belonging to the company.

Actual or Historical Cost.

The plaintiff employed Stone & Webster Incorporated, a well-known organization of consulting and construction engineers, to prepare a reproduction appraisal which will be referred to hereafter. In this connection officers and staff members of Stone & Webster spent something over five months in investigating into the history of the construction, development, and cost of the plaintiff's property and in preparing detailed estimates of the cost to reproduce the same. They made an exhaustive and complete inventory of all the property in the service of the plaintiff at the time of the order complained of in this proceeding. Having this inventory they made an elaborate and exhaustive investigation of the records of the plaintiff and of such sources of information as were available to ascertain the time of acquisition, or construction, and the cost of such of the present property as could be traced. To a certain extent it was not possible to ascertain and to allocate from the records the cost of labor

that must have gone into construction, and the same was true as to a small amount of material, and to cover these items an estimate was made as to the cost at the time of acquisition, installation, or construction. In this manner they built up an actual historical cost statement. The material used in this connection, some 3,000 sheets of entries taken from original vouchers, the details of the estimates and building up of costs, and all the records of the company were submitted to the examination of the defendants and their witnesses.

A summary of the result of this investigation was embodied in a tabulation to show the historical, or actual cost to the plaintiff of all its present electrical property in Worcester, land, material and labor, and in which these items were grouped into three different periods. This shows original cost to the company as follows:

Land:		
1883–1915	$97,802	
1916–1920	136,739	
1921–7/1/27	22,292	$256,833
Material and Labor:		
1883–1915	$3,130,967	
1916–1920	2,679,078	
1921–7/1/27	3,223,017	9,033,062
Total		$9,289,895

These figures do not include any overheads, and the figures for material and labor purport to represent only actual expenditures for material and labor.

They also made a supplementary determination of the approximate original cost of existing land and material and labor, based on data contained in the annual reports of the company to the Department of Public Utilities, extending back to the year 1888 which showed as follows. This included not only the electrical property in Worcester, but also that in Leicester and the Chase Court heating plant in Worcester:

Original Cost.	
1883–1915	$4,089,385
1916–1920	2,872,000
1921–1926	2,836,658
½ Year 1927 approximately	200,000
Total original cost	$9,998,043

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In the annual return to the Department for the year ending December 31, 1927, the company reported the total cost of all its electrical property as $7,002,593.21, of which $240,585.65 was land. These figures are book values, but, there can be no question that the property accounts as carried on the books do not reflect the cost of the existing property, and are approximately $3,000,000 too small. This is due to the fact that the bookkeeping methods with regard to depreciation were changed in 1921 without a correspondent adjustment of the property accounts, as is more fully explained hereinafter in connection with the subject of depreciation.

In annual certificates of condition filed with the Commissioner of Corporations the company in stating its assets and liabilities reports as of December 31, 1926:

Land and water power	$257,392.61
Structures	862,428.40
Other plant investment	5,513,907.80
	$6,633,728.81

and as of December 31, 1927:

Real estate	$1,127,759.03
Machinery	5,900,509.68
	$7,028,268.71

The figures given in these certificates are obviously book values. So far as they may be regarded as statements or admissions by the plaintiff, they are fully explained by the unquestioned evidence as to methods of bookkeeping referred to, and I understand that the defendants do not question the fact that these book values fail, by several million dollars, to show the actual cost of the present property. In fact the defendants put in evidence a compilation of costs made by the plaintiff which shows the costs of property other than land, as of December 31, 1926, as $9,163,169.

Present Value—Land.

The plaintiff owns sundry pieces of real estate used in connection with its service. Evidence as to the value of the land in Worcester was received from three witnesses. Mr. Maurice F. Reidy of Worcester testified on behalf of the plaintiff. He

has been in the real estate business in Worcester for many years, and has held or holds important positions in connection with real estate boards. Mr. Philip H. Duprey and Mr. John A. Swan testified on behalf of defendants. Mr. Duprey has also been in the real estate business in Worcester for many years, and Mr. Swan is an assessor for the city of Worcester and has been so since January, 1921.

The evidence of these witnesses related to twenty-one different parcels of land in Worcester. The values testified to by the plaintiff's witness aggregate $605,946. The highest values shown by the defendants' witnesses aggregate $424,755, which is $181,191 less than the plaintiff's value. Of this difference $145,757 arises in connection with four of the parcels, viz.:

The lot (No. 1) on Webster street, on which the power plant is situated, is valued by the plaintiff's witness at $56,156 which is $26,156 higher than the defendants' value. In reaching this value the witness appears to have taken into consideration elements which are properly allowed for and included in connection with the reproduction appraisal of structures. Plaintiff's witness values Curtis Pond and a large tract of land between the pond and the railroad (Lots 10 and 11) at $163,092, which is $85,059 higher than the defendants' value. Curtis Pond is a large tract of about sixty-six acres with a stream running through it. This stream has been dammed and the land flooded so as to form a large shallow body of water which is used by the plaintiff for condensation purposes. While the use of this water is undoubtedly of great value to the plaintiff, and could be supplied otherwise only at very great expense, this witness did not pretend to include that as an element of value in his testimony as to the value of this tract as land, and I do not see how he properly could have done so. The tract of land between the pond and the railroad has been graded and improved by the company and is used for purposes of coal storage. There is no right of access to it except from the railroad, or over the Curtis Pond tract. The plaintiff's witness valued these two tracts as land available for development purposes, by draining the pond and developing streets, etc., but his estimate of value for such purposes was without any definite estimate as to the details or cost of such

development and seems to me to be too problematical and speculative to be relied on for the purposes of this appraisal. The land on Foster street, on which is the plaintiff's office building (Lot No. 12) was valued by plaintiff's witness at $204,542, which is $34,542 higher than the defendants' value. In reaching this value he had estimated the rental that could be obtained by erecting on this tract a large building, the cost of the building and what could properly be allowed as the cost of the land, and he had assumed that certain rights of way could be eliminated and that this lot could be used in connection with adjacent land on the main street. It subsequently appeared that the situation as to these rights of way was not as he had assumed.

On the other hand in the case of Lots Nos. 7, 8, 9, and 18 the defendant's value is substantially below the actual prices paid by the company some ten years ago, and I find nothing in the evidence to indicate that the value has decreased.

In addition to the foregoing land in Worcester there was also a parcel of land in Leicester in connection with the electric property in that town, as to which the only evidence gives a present value of $600.

The defendants also introduced evidence that in April, 1926 the plaintiff had filed with the assessors a sworn return for tax purposes in which the "full and fair cash value" of the lands in question purported to be given, aggregating $256,832.61, and that a similar return was filed in April, 1927, in which the words full and fair "book" value were used instead of cash value, and the aggregate figures were $257,297.43. Assuming that this evidence is admissible and material as being in the nature of an admission by the plaintiff, and assuming that the values for tax purposes and the values for rate purposes are the same, I do not think that the values given in these returns are conclusive evidence as to the fair value on June 15, 1927. Even if taken literally the return which gave the full and fair cash value was made over a year before the time in question, and the return for 1927 expressly purported to give only "book" value. The defendants also put in evidence certificates of condition filed by the company with the Commissioner of Corporations and showing the assets and liabilities of the company as of De-

cember 31, 1925, December 31, 1926, and December 31, 1927, in which "Land and Water Power $257,392.61" was stated as an asset as of December 31, 1925, and December 31, 1926, and "Real Estate $1,127,759.03" was stated as an asset as of December 31, 1927. These values are obviously book values. Moreover, two witnesses produced by the defendants (one of them being the witness through whom the values in the tax returns was introduced, and who thereafter testified as the defendants' witness as to values) testified to values far in excess of the amounts given in these returns. In view of the other evidence given in detail by three witnesses, two of whom were testifying on behalf of the defendants, the evidence of these returns appears to me of little value. The defendants certainly cannot complain of any values adopted in so far as they are supported by evidence which they themselves have offered.

As to all the land I have adopted values supported by evidence of the defendants, except in the case of Lots Nos. 7, 8, 9, 15, and 18, and the land in Leicester, where I have adopted the plaintiff's values, thus reaching a total value of land $435,696.

Present Value—Physical Property Other than Land.

As stated above a very substantial portion of the company's property was constructed prior to the time of the Great War, since which time there has been a very considerable rise in the prices for materials and labor.

The uncontradicted evidence shows that the price level for materials and labor such as concern an electric lighting plant has been quite uniform for the past five years, before January 1, 1928, and that there are no reasons evident to forecast any substantial changes in present price levels for the next few years.

From statistical information and records of the trend of prices of the different classes of materials and labor relating to electric light companies, and from the study of typical electric light plants, a chart has been made showing a composite figure of the trend of such prices over a period of years, and that chart was put in evidence by the plaintiff and has not been contradicted,

as being a general indication of the trend of the composite price for such properties.

A very large part of the time consumed in the hearings was taken up by evidence in connection with establishing the reproduction cost of the plaintiff's property as of 1927, as evidence of present value, and it appeared not to be questioned that where market value is not ascertainable, the best measure that can be got of present value is to determine what is the reproduction cost new, and from that to deduct as depreciation a proper amount to represent the difference due to the fact that the property is not new.

In this connection it is to be remembered that

"Reproduction value, however, is not a matter of outlay, but of estimate, and should include a reasonable allowance for organization and other overhead charges that necessarily would be incurred in reproducing the utility. In estimating what would reasonably be required for such purposes, proof of actual expenditures originally made, while it would be helpful, is not indispensable." Ohio Utilities Co. v. Public Utilities Commission, 267 U. S. 359, 362, 69 L. ed. 656, P.U.R.1925C, 599, 601, 45 Sup. Ct. Rep. 259.

The plaintiff put in evidence a reproduction estimate or appraisal of its property employed to furnish the service. This appraisal was prepared by the Stone & Webster organization and was supported by the detailed evidence of Mr. William V. Burnell, an engineer, who has been in the employ of Stone & Webster for over twenty years, with large experience in construction work, and who is manager of their appraisal department.

This appraisal consisted of 488 typewritten pages, and contained an extended inventory of all the physical property of the company in great detail, with detailed appraisal of the cost of reproduction new, determined as of July 1, 1927.

The values given for land were supplied by Mr. Reidy, the real estate expert above referred to, and represent his opinion of the market value as of July 1, 1927.

Aside from land, the appraisal covers property as follows:

Electric Property in Worcester.

Steam power station equipped with five units having a total generating capacity of 71,225 kilovolt amperes; 210 miles (approximately) of underground conduit and laterals; 3,255 manholes and tile holes; 1,000 miles (approximately) of underground conductor; 350 miles (approximately) of overhead distribution system; 1,000 miles (approximately) of overhead wire and cable; 7 substations with a combined capacity of 28,633 kilovolt amperes; 10 consumers' substations with a combined capacity of 8,964 kilovolt amperes; 2,370 line transformers having a combined capacity of approximately 39,000 kilovolt amperes; 52,708 customers' meters in service; 22,498 customers' overhead services; 1,251 customers' underground services; 6,005 street lights in service; 1 traffic signal system; 1 group of buildings serving as distribution headquarters as well as for substation purposes; 1 general office building.

Electric Property in Leicester.

Thirty miles (approximately) of overhead distribution system; 135 miles (approximately) of overhead wire and cable; 121 line transformers having a total capacity of 1,218 kilovolt amperes; 953 customers' meters in service; 724 customers' overhead services; 347 street lights in service.

It also included the Chase Court steam heating plant, which by agreement of counsel, is to be regarded as eliminated for the purposes of this proceeding.

This appraisal is based on the assumption that the physical property would be reproduced in its entirety by a contractor operating under the general direction of the plaintiff's organization.

It includes under the description "General Construction Costs" the estimates by Stone & Webster of the expenditures which the plaintiff would be called upon to make, during the construction period, over and above the amounts disbursed through the medium of the contractor organization.

The appraisal also includes estimates of the following additional items:

Organization: this provides for the expense incurred between the inception of the project and the beginning of actual construction. Under this head were included the cost of such items as the salaries and expenses of the promoters' organization, both administrative and technical, during the preconstruction period, and the cost of legally organizing the company.

Cost of Financing: this covers the cost of raising the permanent funds necessary to the creation of the physical property, and is intended to represent the difference between the amount paid by the public for the company's securities and the amount received by the company after paying the expenses of selling.

Working Capital: this allows for an average amount of materials and supplies carried on hand and for cash to cover operating expenses until paid for, with a reasonable surplus for the maintenance of bank credit, and for emergency.

Going Value: this represents the estimate of the additional element of value which the plaintiff's property has by reason of its being a going and tried out and adjusted property, with an efficiently co-ordinated and experienced organization and with its customers attached and its relation with them established, over the value of the bare physical property ready to operate, but without the adjustments, experience, and co-ordination due to continued operation, and without the customers which this company now has.

Exhibits showing in detail the unit costs for labor and material used in this appraisal, and the details as to how those unit costs were arrived at were put in evidence. These exhibits covered many pages and showed with great exactness the methods and figures used. In addition to these there were produced and submitted to the examination and scrutiny of the defendants' counsel and expert witnesses the field notes and working papers used by Stone & Webster in this connection, which included some twenty-eight large bound volumes of material and some 3,000 sheets of extracts from the company's vouchers on record, and embodied the work of the Stone & Webster staff in this connection over a period of some five months.

In this connection I may say that the defendants and their counsel and expert witnesses were given free access to the plaintiff's property and to its records, and had full opportunity to confer with the plaintiff's officers, and were supplied with such information as they requested of the plaintiff.

It appeared in evidence that the Stone & Webster organization has been in the engineering and construction business in connection with public utilities for thirty-nine years, the original business being construction engineering, including designing and reporting, and that about ten years after they commenced business they developed also construction service; that down to 1927 their construction work done for outside clients amounted to approximately $700,000,000; that they maintain a department for the purchasing of material and equipment in connection with construction, and that in the last ten years their purchases for construction work and for companies under their management averaged about $20,000,000 a year; that among the companies managed by them a considerable portion are gas and electric companies; that aside from appraisals they have made about 600 reports on all kinds of engineering work, of which about 400 have been made in the last ten years; that in the last ten years they have made about 300 appraisals, of which between 100 and 150 were of electric light companies; that they have done all kinds of construction work for electric light companies, underground work, overhead work, power stations, distributing systems, substations and everything that goes with electric light companies; that about 80 per cent of their total construction work has been in connection with electric light and power construction and engineering.

The defendants did not offer any independent appraisal of cost to reproduce new, but they accepted the inventory as contained in the Stone & Webster appraisal and introduced the evidence of three engineers, Mr. Ellsworth Miner, of Litchfield, Connecticut, Mr. Otto M. Rau, of Philadelphia, and Mr. Roy Husselman, of Cleveland, as to modification of values shown in the Stone & Webster appraisal of the electric property in Worcester based on their criticisms of the figures for values used

by Stone & Webster. Mr. Miner, Mr. Rau, and Mr. Husselman were employed in connection with this case after this proceeding was brought. They did not testify before the Commission, and so far as appears have not been employed by nor advised with the Commission except as witnesses in the hearings before me. Prior to this case they have not had to do with matters concerning utilities in Massachusetts. These three witnesses did not each cover the entire ground of the Stone & Webster appraisal, but each took a part of that ground, with some overlapping. As a result of the testimony of these witnesses, the defendants compiled and put in evidence an estimate of the reproduction cost new. This compilation follows the division of subjects as given in the Stone & Webster appraisal, and represents the defendants' estimate of the cost to reproduce new. As the defendants have used the same arrangement of subjects as the plaintiff, their reproduction estimate is easily comparable with the plaintiff's figures; the summary of each, and of the deduction to be made for accrued depreciation, is as follows:

Plaintiff's.

Electric Property in Worcester	Cost to Reproduce	Accrued Depreciation	Present Value
Land (market value)	$606,000	.....	$606,000
Construction and Equipment.			
(a) Material and labor:			
Structures	1,442,695	$201,825	1,240,870
Boiler plant equipment	1,345,492	268,000	1,077,492
Turbo-generator units	1,182,781	100,000	1,082,781
Electric plant—steam	350,321	17,500	332,821
Miscellaneous power plant equipment—steam	66,577	10,000	56,577
Substation equipment	678,939	90,000	588,939
Poles, fixtures and overhead conductors	796,367	50,000	746,367
Underground conduits	2,494,318	75,000	2,419,318
Underground conductors	1,705,872	50,000	1,655,872
Consumers' meters	482,434	48,200	434,234
Consumers' meter installation	63,648	6,400	57,248
Line transformers	356,658	35,700	320,958
Transformer installation	71,608	7,200	64,408
Street lighting equipment	477,362	47,700	429,662
Office equipment	76,861	11,500	65,361
Shop equipment	8,681	900	7,781
Stores equipment	5,850	900	4,950
Transportation equipment	74,885	22,500	52,385
Laboratory equipment	27,717	2,800	24,917
Miscellaneous equipment	23,786	4,700	19,086
Total material and labor	$11,732,852	$1,050,825	$10,682,027
The depreciation on these items amounts to 8.95+%			
(b) General construction costs:			
Engineering and superintendence	$595,000	$53,000	$542,000
Law expenditures during construction	25,000	.....	25,000
Interest during construction	1,018,000	.....	1,018,000
Taxes during construction	45,000	.....	45,000
Miscellaneous expenditures during construction	125,000	.....	125,000
Total general construction costs	$1,808,000	$53,000	$1,755,000
Correction (Rec. p. 3849)	19,000	.....	19,000
Total corrected general construction costs	$1,789,000	$53,000	$1,736,000
The depreciation on these items amounts to 2.9+%			
Total material and labor and general construction costs	$13,521,852	$1,103,825	$12,418,027
Organization	125,000	.....	125,000
Working capital	750,000	.....	750,000
Cost of financing	753,000	.....	753,000
Going value	1,590,000	.....	1,590,000
Grand total all property (including land)	$17,345,852	$1,103,825	$16,242,027

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Defendants'.

	Cost to Reproduce	Accrued Depreciation	Present Value
Land	$338,933	.....	$338,933
Construction and equipment.			
(a) Material and labor:			
Structures	1,442,695	$461,564	981,131
Boiler plant equipment	1,287,084	531,206	755,878
Turbo-generator units	1,077,011	466,609	610,402
Electric plant—steam	337,825	78,319	259,506
Miscellaneous power plant equipment —steam	60,245	9,200	51,045
Substation equipment	630,204	138,020	492,184
Poles, fixtures and overhead conductors	725,483	268,753	456,730
Underground conduits	1,788,982	113,872	1,675,110
Underground conductors	1,242,285	130,793	1,111,492
Consumers' meters	433,226	20,836	412,390
Consumers' meter installation	46,259	9,161	37,098
Line transformers	324,290	32,438	291,852
Transformer installation	53,361	5,568	47,793
Street lighting equipment	450,923	126,694	324,229
Office equipment	76,861	15,372	61,489
Shop equipment	8,681	4,717	3,964
Stores equipment	5,850	1,170	4,680
Transportation equipment	74,885	18,127	56,758
Laboratory equipment	27,717	1,771	25,946
Miscellaneous equipment	23,786	8,494	15,292
Total material and labor	$10,117,653	$2,442,684	$7,674,969
The defendants' depreciation on these items is 24.1+%			
(b) General construction costs:			
Engineering and superintendence	$558,302	$136,784	$421,518
Law expenditures during construction	25,012	6,128	18,884
Interest during construction	438,079	107,329	330,750
Taxes during construction	46,670	11,434	35,236
Miscellaneous expenditures during construction	40,163	9,840	30,323
Total general construction costs	$1,108,226	$271,515	$836,711
The defendants' depreciation on these items is 24.5%			
Total material and labor and general construction costs	$11,225,879	$2,714,199	$8,511,680
Organization	392,860	.....	392,860
Working capital	550,000	.....	550,000
Franchise cost	105,332	.....	105,332
Grand total all property (including land)	$12,613,004	$2,714,199	$9,898,805

The plaintiff's appraisal also included, in addition to the above items of cost to reproduce new the electric property in Worcester, corresponding items for the cost to reproduce new

the electric property in Leicester, which (exclusive of land) are summarized as follows:

Electric Property in Leicester	Cost to Reproduce	Accrued Depreciation	Present Value
Construction and Equipment:			
(a) Material and labor	$108,836	$7,800	$101,036
(b) General construction costs	11,300	400	10,900
Total construction and equipment	$120,136	$8,200	$111,936
Organization	1,100	....	1,100
Working capital	12,000	....	12,000
Cost of financing	6,700	....	6,700
Going value	14,000	....	14,000
Total (exclusive of land)	$153,936	$8,200	$145,736

The defendants' witnesses did not deal specifically with the Leicester property.

Taking the property in Worcester, the figures given for reproduction new of the items covered by the heading Total materials and Labor and general Construction costs are:

Plaintiff	$13,521,852
Defendants	11,225,879
The difference being	$2,295,973

Of this difference the difference in material and labor is $1,615,199 and the difference in general construction costs is $680,774.

It will be helpful to make some analysis of these differences.

Material and Labor Accounts.

Taking first material and labor, the total difference is $1,615,-199. An examination of the details of the items making up material and labor, and of the evidence regarding them, shows the following:

The Stone & Webster appraisal is made on the theory that a general contractor is employed to reproduce the physical property in its entirety, and compensation for the general contractor, on the basis of 6 per cent on cost, is distributed in the items of miscellaneous structural costs in making up their unit prices, and, therefore, is reflected and included in the plaintiff's figures.

The defendants, on the other hand, in their figures on these items include nothing by way of compensation for the contractor. The miscellaneous structural costs which are allowed for by the

defendants' figures also differ in some other respects from those used by Stone & Webster.

The result is that the above figures reflect a difference in miscellaneous structural costs amounting to approximately $703,000 of which the greater portion is the elimination of the contractor's compensation.

In every underground conduit in the city streets the company is required to construct and maintain one duct for the use of the city and the company's conduits as constructed and existing include such city duct. The Stone & Webster figures provide for the reproduction of the conduits as they exist, including this city duct; but the defendants' figures provide for the reproduction of conduits without a duct for the city. This elimination of the city duct from the defendants' figures for underground conduits occasions a difference of $123,432 in the items "Underground conduits."

There is a further difference in their figures, as to underground conduits, due to a difference of method in the matter of paving. The plaintiff's figures include the cost at present prices of replacing pavements which had to be disturbed at the time of the installation of the conduits, while the defendants allow for this only the original cost. This difference in treatment as to pavement amounts to $452,238.

In the figures for underground conductors there is a difference of $316,010, which is due in part to a difference in method of estimating reproduction, and in part to a difference in unit prices.

It appears, therefore, that

The total difference between the two estimates for materials and labor is		$1,615,199
made up of		
Difference in miscellaneous structural costs	$703,000	
Omission of reproduction of city duct	123,432	
Difference in treatment of paving	452,238	
Difference in cost of cables installed	316,010	1,594,680
This leaves to be explained		$20,519

which is probably due to differences in rates for labor.

It is clear that a substantial part of the difference between the plaintiff's and the defendants' figures of the cost to reproduce is due to a difference of theory regarding a contractor and miscellaneous structural costs.

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General Contractor. The plaintiff assumes that the entire reproduction of the physical property, other than land, will be done by a general contractor on a "cost plus" basis. Everything in the way of material and labor would be supplied by the contractor, who would do all the purchasing, make and be responsible for any subcontracts. For its fee the contractor would render the service of design, construction, and purchasing, for those purposes bringing to the undertaking the services of its organization that it has to cover design, construction, and purchasing; it would cover the cost of engineering aside from the direct pay roll of engineers; it is a fee covering the gross profit for the complete service of engineering, construction, and purchasing, but the salaries of engineers and draftsmen, and everybody engaged on the work, clerks, materialmen, timekeepers, would be charged into cost of the work, and form a part of the base on which the percentage fee is computed. Six per cent of cost was adopted in the Stone & Webster appraisal for the contractor's compensation, and this was figured on the cost of direct labor and materials used in the reproduction, not including land, and not including consumers' meters in stock, line transformers in stock, and general equipment.

The defendants on the other hand assumed that parts of the work would be done bv the company itself, and that the company would be in existence with sufficient organization and staff to undertake, supervise, and carry out certain portions of the work. The defendants assumed that where in its historical natural growth and development the company had purchased machinery, or equipment, to be installed by the seller under a guarantee, the same method should be the basis of a reproduction estimate. A very large part of the deductions which the defendants make from the Stone & Webster appraisal are due entirely to this difference in theory.

The defendants' witnesses were not altogether consistent on this subject of a general contractor. Mr. Rau, who testified for the defendants in detail as to the overhead and underground distribution systems, said explicitly that, in addition to the prices or figures to which he has testified he assumed that, in some form or other, and in some amount or other, there will be compensation

for the general contractor "based on a percentage on the whole job;" that his figures are meant to cover exactly the same method that Mr. Burnell used, but he did not include in his figures the compensation for the general contractor; that the general contractor's fees would be added in figures to be given by another witness; that he started with the theory that there is a general contract between the company and Stone & Webster, or some other similar general contractor, under which that contractor gets compensation, which is some percentage on the total of the contract; and that if there are any subcontractors they are employed by the general contractor; that there is no relation of privity between the company and the subcontractor; that the owning company knows only the general contractor, and leaves it to the general contractor to do the whole of the work, but the general contractor has the right to employ a subcontractor.

Counsel for the defendants said specifically that neither Mr. Miner's figures nor Mr. Rau's figures included any item of the general contractor's fee for engineering and supervision, that those would be treated separately above the miscellaneous structural costs.

It thus appears that in defendants' figures as to reproduction costs, material and labor, there is no element of compensation for the general contractor.

Mr. Husselman, who testified for the defendants as to the general construction costs and as to the other items, "Organization," "Working Capital," "Cost of Financing," "Going Value," said that in the total of the defendants' figures, the only amounts which could go to make up the fee of the general contractor, if there were one, were items which he picked out of the accounts as follows:

From the figures testified to by Miner and Rau he picked out items which he called "local supervision" aggregating	$104,027
From the figures for structures (which was the same as the plaintiff's figure) the contractor's 6%	81,654
From the item "Engineering and construction superintendence" (in general construction costs)	79,337
From "Organization"	88,555
	$353,573

which he said was the equivalent of 3.65 per cent on the cost of the work. Inasmuch as it was clearly stated that the figures

given by Messrs. Miner and Rau contained nothing which would contribute to a general contractor's fee, Mr. Husselman is clearly wrong in including the item of $104,027 from their figures as part of his contractor's compensation. That leaves only $249,-546 at the outside for contractor's cost.

[14] It seems clear that the ascertainment of cost to reproduce new assumes the existence of an organization and staff sufficiently trained, experienced, and co-ordinated to carry through the work. This was recognized by witnesses for both sides. Unless a general contractor is to be employed it would seem to be necessary for the reproducing company to provide itself with an organization and equipment, analogous to that of a general contractor, in order to effect the reproduction. We are not here dealing with a reproduction which would be made in the gradual and piecemeal way, it has developed in fact over a long period of years. What is contemplated is a reproduction of the property as an entirety, in the shortest reasonable time, which is estimated by both sides at two years; the planning and execution in detail of such a reproduction must involve an organization of very different character and extent from that required merely by an operating company. The assembling, training, and co-ordinating of such an organization with its necessary equipment, both technical and physical, must take considerable time, and involve a considerable expense, all of which would have to be included as a part of the reproduction expense, and the figures used by the defendants in my opinion make no adequate allowance therefor. Mr. Burnell testified that wholesale construction is in the end cheaper than piecemeal construction. Mr. Husselman said that he would not say it would be an abnormal or unusual thing to employ a general contractor to do the whole thing when there is a new set-up of an electric light plant, as a going concern, producing and ready to deliver, although he doubted whether there were any cases in which a property has been built and set up, including meters and services, and items of that kind by a general contractor.

The use of a general contractor for the entire work was the method adopted by the Special Master, whose report was con-

firmed in Brooklyn Borough Gas Co. v. Prendergast, 16 F. (2d) 615, 628, P.U.R.1927A, 200.

The use of a general contractor in this way in an estimate of cost to reproduce new seems to me to be justified by the evidence in this case and to be reasonable and proper, and I, therefore, adopt it.

[15] The evidence shows that the rate of percentage may vary according as to whether the contractor is to do the entire work, or is only to do parts, and that the elimination from the contract of parts of the work would tend to require a larger percentage for the remainder; also that the figure of 6 per cent for the contractor adopted by the Stone & Webster appraisal was based on the fact that the entire reproduction was to be included in the contract.

I do not understand that the rate of percentage for the contractor's fee is seriously questioned, but if it is, I think the evidence justifies the rate taken by the plaintiff.

Labor Rates. The Stone & Webster appraisal was based on a unit price for labor which was taken as the prevailing price in Worcester for work of that kind, and was greater than the company's pay roll price for its steady employees.

[16] The defendants contended that the basic prices for labor should be no greater than those shown on the company's pay roll, and their witnesses made deductions from the Stone & Webster appraisal accordingly.

It appeared that the number of men required for the reproduction would reach a number greater than the number regularly employed by the company and would aggregate some 1,700 men; and that in addition to steady employment and possibilities for promotion and increase in pay enjoyed by its regular employees, the company gave them, including common laborers, vacations with pay, paid time and one half for overtime, paid half their life insurance and half their health insurance, paid them when sick, maintained a recreation room for them, and gave them a picnic and outing each year.

The defendants' contention that the basic labor prices in the unit prices should not exceed corresponding prices shown on the plaintiff's pay roll, seems to me not to be sustained. The differ-

ences between the conditions under which this reproduction is to be estimated, and the conditions in connection with steady employment by the company, as well as the difference in the amount of labor required satisfy me that the rates of pay shown by the defendants' pay roll should not be adopted. Aside from this contention of the defendants I do not understand that the rates for labor taken in the Stone & Webster appraisal are criticized; at all events there was no evidence that the rates in Worcester for work of this character were other than as given in plaintiff's evidence.

In Brooklyn Borough Gas Co. v. Prendergast, 16 F. (2d) 615, 630, P.U.R.1927A, 200, the contention here made by the defendant was overruled. I adopt the plaintiff's rates for labor.

[17] *The City Duct.* The duct provided for the city, by the terms of the city's permission to use the streets, is required to be furnished by the company, and it forms an integral part of the underground conduits of the plaintiff in the city streets. Without such a duct the conduits could not have been constructed in the first place, and any reproduction would have to include a similar duct. The underground conduits admittedly are a part of the property used by the plaintiff to furnish service to its consumers, but those conduits could not be in the streets without the duct for the city as a continuing part. In order to eliminate this duct the defendants have estimated the cost of reproducing conduits different from those actually in existence and used by the plaintiff. I can see no proper ground for so doing.

[18] *Paving.* That the plaintiff incurred considerable expense in connection with the construction of its conduits because of the necessity of cutting and then of replacing paving that was in the city streets at the time of construction is not questioned. That since the construction of the conduits there have been many changes in the extent and nature of the pavement in the streets in which they are constructed is not questioned. These changes consist, partly, in the paving of streets which were not then paved, and partly in the replacement of pavement which then existed by pavement of a more expensive kind.

It is clear that an actual reproduction of the conduits would

require the removal and replacement of the pavement as it now exists, and it follows that for that reason the existing conduits have an element of value in addition to the present cost of materials and labor aside from the paving. The difficulty is whether this element of value should be included in an appraisal of this character for rate purposes, and if so, as to how it shall be measured. It seems clear that this element of value, such as it is, is equally applicable to all of the conduits over which there is now paving, without regard to whether or not there was paving disturbed when the conduit was constructed. On the theory that the causes of appreciation are unimportant, if the fact of appreciation exists, the costs of reproducing the pavements as they existed at the time the estimate of cost reproduction was made was allowed in Consolidated Gas Co. v. New York, in 1907, 157 Fed. 849. This case was reversed by the Supreme Court on other grounds (212 U. S. 19, 53 L. ed. 382, 29 Sup. Ct. Rep. 192).

In 1914 the question arose as to including the cost of paving over gas mains, where the streets were unpaved at the time the mains had been laid, and the pavements subsequently had been laid over the mains. It was contended that $140,000 should be included in the reproduction value because of the necessity of taking up and replacing this pavement in case of reproduction. This was disallowed and the disallowance was approved by the Supreme Court. Des Moines Gas Co. v. Des Moines, 238 U. S. 153, 171, 59 L. ed. 1244, P.U.R.1915D, 577, 589, 35 Sup. Ct. Rep. 811.

In that case the Court said: "As to the item of $140,000, which, it is contended, should be added to the valuation, because of the fact that the Master valued the property on the basis of the cost of reproduction new, less depreciation, and it would be necessary in such reproduction to take up and replace pavements on streets which were unpaved when the gas mains were laid, in order to replace the mains, we are of the opinion that the court below correctly disposed of this question. These pavements were already in place. It may be conceded that they would require removal at the time when it became necessary to reproduce the plant in this respect. The Master reached

the conclusion that the life of the mains would not be enhanced by the necessity of removing the pavements, and that the company had no right of property in the pavements thus dealt with, and that there was neither justice nor equity in requiring the people who had been at the expense of paving the streets to pay an additional sum for gas because the plant, when put in, would have to be at the expense of taking up and replacing the pavements in building the same. He held that such added value was wholly theoretical, when no benefit was derived therefrom. We find no error in this disposition of the question."

The plaintiff's counsel concedes that since the decision in the Des Moines case the reproduction theory has not been applied in its full logical extent to the subject of paving, and that the cost of reproducing pavement as it exists today, without regard to conditions at the time of original construction, is not to be included as a part of the reproduction cost. He does, however, contend that there should be included the cost at present prices of reproducing the pavement as it in fact existed at the time the conduits were constructed; that is, he would have included the estimated present cost of what was originally done; and he cites in support of that contention Brooklyn Borough Gas Co. v. Prendergast, 16 F. (2d) 615, P.U.R.1927A, 200; People ex rel. King's County Lighting Co. v. Willcox, 210 N. Y. 479, 494, 104 N. E. 911, 51 L.R.A.(N.S.) 1; Columbus Gas & Fuel Co. v. Columbus, 17 F. (2d) 630, 633, 634, P.U.R.1927C, 639, 646.

The defendants contend that only the cost actually incurred historically in regard to paving should be included.

I think the evidence shows conclusively that much of the pavement in the streets at the time the conduits were put in has been replaced by the city with higher grade and more expensive pavement, and that, in the event of actual reproduction, there would be only a part of the original pavement to be replaced.

In the Brooklyn Gas Company case, cited by the plaintiff, it does appear that the reproduction price of original pavement was included in the present value, but in the King's County Light Company case in New York, also cited by the plaintiff, the re-

production cost of pavement not in the streets at the time of original installation was disallowed, and there was allowed the "cost of restoring the pavement as it existed when the mains and service pipes were laid in the streets." Whether the amount so allowed was the original cost or the cost to restore at present prices does not appear. In the Columbus Gas Company Case, *supra,* cited by the plaintiff, the Court says:

"The company contends that, under the reproduction new theory, the cost of cutting and replacing all pavement that, at the time of the appraisement, had been constructed over the mains in the natural gas system, properly enter into the reproduction cost new. On the other hand, the city claims that only such pavement as was cut at the time of original installation should now be carried in that value. The Master's finding is in accord with the city's contention, and is correct. Rate-making bodies have been confronted with this question, and the weight of these holdings is so strong that the exclusion of all costs for paving cut and replaced, other than that cut and replaced at the time of the original installation, has become the almost universal rule. Spurr, Guiding Principles of Public Service Regulation, vol. 2, Chap. 26, p. 1; Des Moines Gas Co. v. Des Moines, 238 U. S. 153, 171, 59 L. ed. 1244, P.U.R.1915D, 577, 35 Sup. Ct. Rep. 811."

Whether this means the reproduction cost or the original cost is perhaps not wholly clear. Both the plaintiff and the defendants have cited this case in support of their contentions. The reference in the case to Spurr's book on Public Service Regulation, seems to indicate that the Court was referring only to original cost. In the chapter referred to in Spurr's book I find the following:

"In valuations of utility property, either for rate making, for condemnation, or for purchase, the rule is now well settled that nothing will be allowed for enhanced values due to paving." (p. 1).

again

"The cost of paving actually cut by the company is allowed as a matter of course." (p. 2)

again

"It seems to be the rule also that the actual cost of cutting paving is to be allowed in a reproduction cost of the company's property, as well as in an estimate of original cost." (p. 10) again

"Summarizing the cases, the rule appears to be that nothing will be allowed the company on account of pavement over underground construction where no expense has been incurred by the company on account of the pavement; that this rule applies both to valuations for rate making and for condemnation or purchase, whether the inquiry is for the purpose of ascertaining original cost or reproduction cost of the company's property." (p. 11).

From the citation in the Columbus Gas case opinion, *supra,* and from the chapter in Spurr's book, *supra,* from which the above quotations are taken, I interpret the Columbus Gas Company, *supra,* to be against including anything but original cost.

The contention of the plaintiff seems to me to be subject to many of the same objections which are raised against the reproduction of present pavement, and to the further objection that it is wholly illogical as to such portion of the original pavement as has been replaced by other pavement.

The evidence shows conclusively that much of the pavement in the streets at the time the conduits were put in has been replaced by the city with higher grade and more expensive pavement.

I am satisfied that the fact that there is pavement over the conduits, and that the expense of getting the conduits under the pavement has already been met does give an element of value additional to the value they would have if there were no pavements. This is equally true whether the pavements were disturbed at the time the conduits were installed, or whether the pavement has since been put in over the conduits. The difficulty is in properly measuring that value. The cost of replacing present pavements is a logical application of the reproduction theory, whether equitable or not, but, as is conceded by the plaintiff, that is clearly not to be taken as the measure. There seems to me to be less logic, and not much more equity, in taking the cost of reproducing something which admittedly is not there,

and would not be reproduced in any event. At the same time there is no question that a very considerable expense has been incurred because of the existence of paving in the streets at the time the conduits were built, and that in some way and in some degree the plaintiff is entitled to recognition of it.

I, therefore, find that because of the pavement in the streets there is an element of value in the conduits in addition to the cost to reproduce aside from paving, but I also find that the paving, whether that which was there at the time of original construction, or that which is presently there, does not belong to the plaintiff, that it does not add anything to the efficiency of the conduits, and that it bears no part, and gives no aid in enabling the plaintiff to perform the service to consumers.

The question is a practical one and I think the most equitable solution is to include in the reproduction costs, as a part of the cost of reproducing the conduits, an amount equal to the original cost incurred in regard to the paving. The defendants contend that this item should be taken by itself, and in their estimate they take it out of the reproduction cost of physical property and set it up by itself under the title "Franchise." Of course the purpose of this is to eliminate that amount from the base upon which structural costs and overheads and the so-called "Other Items" are figured. But if it is to be included at all, it is because it is an element of value in the conduits as they exist, a part of the cost incurred in creating them in the first place, and to be taken as a part of the cost of reproduction new, and the fact that we are taking a more moderate, if less logical estimate of that value, seems to me to be no reason to separate it from the other reproduction costs.

As to the exact amount of this historical cost there is some degree of uncertainty in this particular case.

The plaintiff's evidence shows that at least $169,946 was expended in connection with this matter of pavement. There is some ground for thinking that this amount is considerably less than the amount actually expended, but the records kept by the plaintiff are not such as to enable the full amount to be stated accurately. I find that the original cost of cutting and replacing pavement in connection with the construction of underground

conduits was at least $170,000, and that that amount be included in the reproduction cost of conduits.

The plaintiff asks for an alternative finding giving the present cost to reproduce the paving actually replaced at the time the conduits were constructed. This raises a question not only as to exactly what pavements were then in existence, but also as to how much of such pavement was in fact replaced. It appeared that during a considerable part, at least, of the period in which the distributive system was being put underground, it was the practice of the city to notify the plaintiff before it paved unpaved streets, and before it repaved or improved streets already paved, and that it was the policy of the plaintiff to build its conduits, when possible, before such improvements were actually made by the city. It also appeared that where this was done it was usual not to replace the existing pavement, but to provide only temporary surfacing until the city should put in the new pavement, the cost of such new pavement when put in being borne by the city. There seems to be no question that as to the pavement disturbed in the construction of the conduits a considerable portion was not replaced by the plaintiff, and the evidence is not sufficient to enable me to determine just what kinds of pavement were in fact replaced, or to what extent, and I am not able to make, on the evidence before me, an exact estimate of this reproduction cost.

It does appear that at least $170,000 was expended in connection with pavements, but this amount included the original cutting as well as the replacement. However, inasmuch as this inclusion of the cost of cutting the pavement is not a duplication, and was certainly a part of the original cost due to pavement, this distinction may be ignored. There are in evidence also figures showing trend of prices entering into this paving item from the present time back to and including the year 1910. By applying these trend prices to the figure for original cost, an approximation of present reproduction costs may be reached. I say approximation because the evidence does not show the exact cost incurred in each year, but divides it into periods of several years in each period, and the price trends, therefore, have to be averaged over these periods; also, as stated above, there

is reason to think that the amount $170,000 is less than the actual original cost. However, by applying this method I find that the present reproduction cost of the paving disturbed at the time the conduits were constructed, is approximately not less than $200,000, if that fact is material.

Underground Conductors. The defendants' figure for this item ($1,242,285) was testified to by Mr. Rau. Although Mr. Rau had stated that he assumed there would be a general contractor for the entire reproduction he seems not to have applied that method throughout this item. As to certain cables he said he assumed they would be purchased at a price which covered installation, and that he took the prices actually paid by the company in recent years. Mr. Burnell subsequently testified that he had examined the company's prices to which Mr. Rau referred, and that those prices did not sustain Mr. Rau's figures, and this evidence was not contradicted. With certain minor exceptions Rau used as labor rates the rates shown by the company's pay roll; he assumed the distances between manholes was much greater than that shown by the evidence; his estimate of the amount of cable to be pulled by a crew in a day was over two and one half times the amount allowed by Mr. Husselman (also a witness for the defendants). He also testified that he had reached his figures without knowledge of the actual historical cost of this work. The historical cost figures show the amount for this item to be $1,504,719, of which $287,308 was estimated, leaving $1,217,411 representing items in this account for which vouchers were found, of which $731,934 was in the period 1883–1915, $218,440 was in the period 1916–1920, and $267,037 in the period 1921–1927. As Mr. Rau testified that the cost of work of this character has not gone down in the last fifteen or eighteen years but has steadily gone up, it seems clear that the present reproduction cost of this item must be greater than the actual historical cost. As between the figures given by the plaintiff for this account and those given by the defendants, I adopt the plaintiff's.

Summarizing the foregoing as to the items included under the heading "Materials and labor" I adopt and allow the plaintiff's estimates except as to the item "Underground conduits." As

to that item I allow only for the original cost incurred in connection with cutting and replacing pavement, which I fix at $170,000. I therefore, deduct from the plaintiff's estimate for underground conduits the sum of $394,210, being the difference between the amount included by the plaintiff for paving ($564,210) and the amount I have allowed ($170,000).

General Construction Costs and Other Items.

Coming now to an analysis of the difference ($680,774) in the "General construction costs" the evidence shows the following:

The difference in interest is $579,921.

The plaintiff figured interest at the rate of 7 per cent while the defendants allowed only 6 per cent. There was also a radical difference in the method of determining the amounts on which interest was to be allowed.

The difference in engineering and superintendence and miscellaneous expenditures during construction is $102,535. This is due to a difference in method in dealing with these subjects which is reflected also in the later item of organization, where the defendants' figure exceeds the plaintiff's by $267,860.

On the other hand the defendants allowed $12 more for law expenditures, and $1,670 more for taxes. The result, therefore, is

Total difference in general structural costs			$680,774
Plaintiff's excess over defendants' "Interest"		$579,921	
Plaintiff's excess over defendants' "Miscellaneous expenditures"		102,535	
		$682,456	
Defendants' excess over plaintiff's "Law"	$12		
Defendants' excess over plaintiff's "Taxes"	1,670	$1,682	$680,774

For "Organization" the plaintiff's figure is $267,860 less than defendants' figure.

For "Working capital" the plaintiff's figure is $200,000 greater than that of defendants.

For "Franchise cost" the plaintiff allows nothing, while the defendants allow $105,332, which is their estimate of the original cost incurred in connection with paving at the time the conduits were constructed.

For "Going concern" value the plaintiff allows $1,590,000 and for "Cost of financing" $753,000 while the defendants allow nothing for either of these items.

[19] *Engineering and Superintendence.* The plaintiff's figure is 5 per cent on the reproduction cost of the physical property exclusive of land, and is an "estimate of the expenses of an engineering organization in connection with the preparation of plans and specifications and the inspection of the work as it proceeds." The defendants' figure is to cover "the usual and ordinary services of an engineer or engineers, in designing, laying out, preparing specifications, assisting in the taking of bids, and purchasing, and usual and ordinary superintendence in construction and supervision of construction." The defendants' figure was arrived at by applying various percentages to the various items going to make up the total cost of the property to which the engineering services should be applied, instead of being a flat percentage on the total as in the plaintiff's figure. It was stated by the defendants' counsel that the average percentage used for this item is slightly larger than the percentage used by the plaintiff. The total amount allowed by the defendants for this item is slightly over 5½ per cent of their total of items for material and labor. It is obvious that their same method applied to the plaintiff's total for material and labor would have resulted in a figure larger than that arrived at by the plaintiff. The defendants urge that the plaintiff's figure in a large measure is a duplication of items which are already provided for in the miscellaneous structural costs included in the plaintiff's unit prices, which include the percentage for the general contractor. But as the defendants' witnesses used substantially the same miscellaneous costs in their unit prices, except for the 6 per cent contractor's fee, and as Mr. Husselman, who made up this figure for the defendants, says that his figure includes only $79,337 which could form part of the contractor's fee, it must follow that the balance ($478,965) represents elements corresponding to those covered by the plaintiff's figure. In other words, if we eliminate from the defendants' figure for engineering and superintendence the amount which they say could represent contractor's percentage ($79,337), the balance, $478,965,

compares with plaintiff's figure $595,000 for the same thing, the difference apparently being due to the defendants taking a smaller base, though at an average larger percentage. It is clear from the testimony on both sides that a substantial amount is to be allowed for in this item, without thereby duplicating anything in the items previously considered. The plaintiff's method of figuring it at a flat percentage on the total material and labor is not unusual. The defendants' witness admitted that 5 per cent was the usual percentage for this item in connection with structures, and as much as that in a large majority of the various items going to make up the total of material and labor. I adopt the plaintiff's method and rate in connection with this item.

[20] *Interest during Construction.* The plaintiff's position with regard to interest is that all the money required to recreate this property must be provided, and that it must be available as it is required. Assuming that the actual construction would require a period of two years, the plaintiff prepared a budget as to what amount would be required for actual disbursement in each period of six months during that two years, and then considered that such amount was provided for by the discount of notes at the beginning of the six months' period, charging the amount of the discount to interest, and crediting to interest any interest received on bank balances.

The amount of money which the plaintiff took as its basis, was the total of the value of the land, the reproduction cost of material and labor, and items of engineering and superintendence during construction, miscellaneous expenditures during construction, and taxes and law expenses during construction.

The defendants' theory is that the money would be provided as it was needed, by the sale of stock or of securities, or by loans from banks, but they did not contemplate any definite commitment, in advance of its expenditure, for the money required. Inasmuch as, even on their lower estimate of costs, there would be required an average supply of something over half a million dollars a month for some eighteen months, this seems a little "easy going."

In figuring this item of interest the defendants wholly ex-

cluded the cost of the land on the theory that the land was taken at its then market value, and that no further amount than that market value should be included in the reproduction cost in connection with land. But this ignores the fact that the land must be acquired before construction work begins, and that the interest on the cost of the land would be as much an actual expenditure, in case of reproduction, as would be the interest on the money expended in construction or in equipment. The interest on the cost of the land is included by the plaintiff, not as an element in the value of the land, but as an item of expense arising from the necessary lapse of time in construction of the plant. In Brooklyn Borough Gas Co. v. Prendergast, 16 F. (2d) 615, P.U.R.1927A, 200, and in Idaho Power Co. v. Thompson, 19 F. (2d) 547, P.U.R.1927D, 388, interest on the cost of land was included.

The defendants also excluded the cost of "paving" in this connection. As explained above I think the cost of "paving" should be included as part of the cost of the conduits.

The plaintiff's method of arriving at the amount of interest during construction seems to me to be a proper one, and I adopt that method, and include the cost of the land, and the cost of the paving as a part of the base.

The plaintiff figured the interest at the rate of 7 per cent, while the defendants took the rate of 6 per cent. While it is not to be assumed that the reproduction is to be made by this particular company, with its history and present financial standing, I think it must be assumed that the reproduction is to be undertaken by some concern not wholly destitute of financial resources and credit. I adopt the defendants' rate of interest, viz., 6 per cent.

In order to determine the amount of interest I have taken the ratio which the interest as figured on the budget in Exhibit 25, p. 458, bears to the total amount to be raised in that budget. I have applied the same ratio to the amount of money required by the figures I have reached, and have adjusted that to a 6 per cent rate by taking six sevenths of that result.

Miscellaneous Expenditures during Construction. The plaintiff includes in this item an estimate of expenses which would

be incurred by the company (the owner) during construction. These expenses are analogous to those included in the item engineering and superintendence, but they are in the nature of administrative expenses, rather than technical. They are not expenses which would be incurred by a general contractor, but are intended to cover the salaries and expenses of the executive and general officers of the owning company, including maintaining a general office, during the time the construction is carried on by the general contractor. They are included on the theory that during the construction period there must be in existence, and capable of functioning, to a certain degree, an owning company, which has adopted the project of the creation of this electric plant, has acquired the land, employed a general contractor to do the entire work, has obligated itself to provide the necessary funds, and which must maintain a certain administrative organization, in that connection. It is not intended to cover any of the expenses incurred by the general contractor. The appropriate amount for this item is fixed by the plaintiff's witness at 1 per cent of the reproduction cost of the physical property.

The defendants, on the other hand, put all such expenses of an owner company under the item organization, and they include in this item of miscellaneous expenditures during construction only allowances for the cost of testing of equipment and materials used in the preliminary operation and breaking in of the property, and changes which have to be made as a result of tests. They include nothing in the way of salaries. The figures of the plaintiff and of the defendants under this item are in no way comparable.

Organization. The plaintiff includes under this heading items of expense which are incurred by the owning company previous to the beginning of construction. Such expenses are preliminary surveys and investigations, incorporating and organizing the company, options for, or acquisition of the land, and everything prior to the beginning of construction. The amount is fixed at 1 per cent of the reproduction cost of the physical property.

The defendants, on the other hand, include under this head not only the cost of incorporating, obtaining franchises, all costs

preliminary to construction, salaries and expenses of officers, advertising and other office expenses incurred while organizing, but also during the period of construction, and while getting the company ready to do business. They include all legal expenses in connection with financing, the cost of prospectuses, of soliciting stock subscriptions, preparing and issuing securities, registrars' fees, stamp taxes, etc., any expenses of financing, and all expenses incident to setting up and administering the company from the beginning until the construction is completed, the company financed, and ready to carry on the operating business.

The plaintiff has an item "Cost of financing" which is to cover the cost to the company of the permanent provision of the funds necessary to complete the acquisition and construction of the entire property ready to operate, including working capital. This item represents the estimated cost of assembling the permanent capital by disposing of permanent securities, and is figured at 5 per cent of the total amount to be raised.

The plaintiff also has an item "Going value" which represents the difference between a property constructed and ready to do business, and a property having an organization trained, co-ordinated and experienced, a physical property which has been tuned up and got into efficient and successful working order by continued operation, and which has the requisite customers actually using its product. It does not purport to include anything for "Goodwill." The amount is taken as 10 per cent of the reproduction cost of all the other items.

The defendants make no separate allowance either for the "Cost of financing" or for "Going value," and, except as those matters may be included in their figures for "Miscellaneous expense during construction" and "Organization," they allow nothing for financing or going value.

It is necessary, therefore, to consider together the four items "Miscellaneous expenses during construction," "Organization," "Cost of financing," and "Going value."

The defendants' aggregate for the first two items is $433,023. The plaintiff's aggregate for the corresponding items is $250,000, and the plaintiff in addition allows for "Cost of financing" $753,000 and for "Going value" $1,590,000. The difference is

in part due to the fact that the other reproduction costs of defendants are very materially smaller than those of the plaintiff, but the main difference is due to the radical difference in the treatment of the reproduction problem.

[21, 22] The plaintiff assumes that there are two separate entities involved in this reproduction problem; first, the owning company, which conceives the plan and determines its general scope, acquires the land, and contracts with the second entity. The second entity is a general contractor who undertakes to develop the details, engineering, and technical, to carry on and complete the entire physical plant, including supplying all the materials, labor, equipment, and supplies necessary to create and establish the physical property in all its details, including the connections for the requisite number of customers, the materials and supplies on hand appropriate for current operation; and this general contractor is to be paid by the owning company the costs incurred plus a percentage thereon. This plant when so completed, and after such incidental adjustments and tuning up as show it to be ready to operate, is turned over to the owner ready to operate. Both the plaintiff and the defendants assume that the actual construction of the plant will take two years. The plaintiff assumes that during this period the owner will be in existence, with sufficient organization to enable it to carry on the necessary touch with the contractor and his work, will be preparing its plans, and getting together the beginnings of an organization which will be prepared to take over the plant upon its completion, and then to enter upon the operating stage; and that the owner will arrange for the creation and marketing of appropriate securities in sufficient amount to supply the funds necessary to the entire enterprise. After taking over the plant the owner will begin serving its customers as rapidly as they may be arranged with, but it will be with an entirely new plant, tested and adjusted to the degree necessary to satisfy the contractor's obligation to turn over a plant ready to operate, but of course wholly lacking in that finer adjustment which comes from continuous operation by an organization which gradually has become trained and co-ordinated by actual experience with the particular plant. However carefully a new organization is got together it

cannot be expected to function at the start with the efficiency and economy which will be developed by years of experience, and after incidental changes, adjustments, and development of personnel which result in the survival of the fittest.

The entire expense of creating and organizing the owner company, including such technical and administrative functions as are concerned with the development of a plan, the making of the contract, the inspection and supervision necessary to determine that the contract is properly performed, and the handling, disbursing, and accounting for many millions of dollars, in short everything up to the acceptance of the finished plant ready to begin operations, excepting only the cost of raising the necessary funds, is included by the plaintiff in the two items of "Miscellaneous expenditures during construction" and "Organization," each being estimated at 1 per cent of the cost of the physical property.

The plaintiff assumes that the owner will obtain the necessary funds as permanent capital by marketing its own securities, and that, in order surely and definitely to accomplish this, it will contract with some financial organization to take and dispose of its securities for a compensation of 5 per cent on the amount furnished.

The witnesses for the defendants did not adopt the plaintiff's theory as to the method of reconstruction. Of the three witnesses who testified for the defendants on the subject of reproduction cost, no one testified as to all the different estimates of cost. In a general way it may be said that one witness dealt with structures and production equipment, another with the distribution system, and the third with the general structural costs and so-called "Overheads." There is a certain inconsistency in their method, as the one who dealt with the distribution system assumed that there would be a general contractor who would contract to do the entire work, and who would receive as compensation a percentage of the cost of the entire work, which would be provided for in the testimony of the third witness, while the latter, who was the only one who testified as to the items now under consideration, assumed that there would be no general contractor, and made no provision for compensation for a general contractor

as such, although he did say that there were included in the total figures certain amounts, which, if there were a general contractor, would go to him.

The defendants' assumption appears to be that a company is created with an organization sufficient itself to develop and carry out the entire work of reproduction, although it may contract for construction of certain parts. Their whole method follows somewhat closely the process which has actually happened in the gradual development of the existing plant during a long period of years, although in their assumption the entire matter is to be accomplished in two years. In a general way it would seem that they assume that this new company will itself perform all the engineering and administrative work which historically have in fact been performed by the plaintiff, and that it will itself construct such parts as historically have been constructed by the plaintiff. They assume that this company will obtain the necessary funds for permanent capital by disposing of its securities itself as the plaintiff has in fact done; that its securities will be in demand among the citizens of Worcester, so that the entire amount of permanent capital involved in the entire reproduction will be obtained readily without the necessity of any outside financial organization, and that the expense incident thereto will be merely that necessary to the creation and preparation of its securities, and something for advertising and solicitation. They assume that such a company having itself constructed the plant will have created a satisfactory organization to operate it, and that the costs which they allow as incident to the period of construction will cover the completion of a plant so tested and adjusted, and an organization so trained and co-ordinated, with customers actually attached, that it will have all the elements of going value which the plaintiff now has.

The company, which they assume is to be created and which is to engineer and carry out this reproduction, seems to me to have an amazing resemblance to the plaintiff as it exists today, with its history and experience which are the result of years of successful operation!

The defendants assert that in a city of the size and character of Worcester, in the present state of the art of electric energy,

the demand for light and power would be as it is today, and that there would be no need for any period of education of the public, and that customers for the entire amount of energy would be ready to take the service as soon as it is provided. Assuming that to be true, and assuming, as both sides do, that the newly constructed plant would be equipped with the connections necessary to serve customers to the extent they exist to day, there still must be considered the determination of the exact requirements of the different customers, the actual arrangements as to the details of service to be supplied, the making of contracts with approximately 53,000 customers, all of which must require a considerable time, and which would seem to require an organization of a different character, and involving very considerably greater numbers and greater expense, than such an organization as is maintained by the plaintiff in the regular conduct of its business, to say nothing of the experiments and changes as to service before the different customers would have determined their needs. Before the service can be used by the customers more is requisite than the readiness of the company to deliver the energy; the premises of each customer must be equipped to receive and use the electricity, and the equipping of his premises must be done by each customer for himself. So far as appears from the evidence that is no part of the service to be rendered by the company. If it be assumed that there has been no similar service, before the creation of this new plant, which appears to be an assumption of the defendants in this respect, it cannot be assumed that all the customers' premises are already wired and otherwise equipped to receive and use electricity, nor can it be assumed that such wiring and equipping can be done speedily. It is a matter of common knowledge that the wiring and equipping of buildings already constructed, is a slow and expensive process, requiring technical training and experience, and it is hard to believe that with 53,000 different customers the necessary installation could be completed without the lapse of a very considerable time.

In accordance with the foregoing I have adopted the plaintiff's method of dealing with "Miscellaneous costs during construction" and with "Organization."

[23] With regard to the matter of financing it is true that the

plaintiff has had little or no difficulty in obtaining additions to its capital, and that its additional stock issued has been readily taken by its stockholders. But that applies to a total amount of about $4,000,000 and it has been spread over a long series of years. It is an entirely different matter to obtain from three to four times that amount inside of two years, especially with a new company, without a history of successful operation and before the efficiency of its management and its earning capacity have been demonstrated. With every assumption as to the readiness of the field, and the probable success of the venture, the evidence fails to satisfy me that there would exist in Worcester such a demand for the securities of a new company as would supply forthwith, or as required during a period of two years approximately $12,000,000 which is the defendants' estimate. If the reproduction is to be carried out as swiftly and economically as possible there must be a *commitment* of the necessary funds. At the very outset the land must be acquired, salaries and pay rolls must be met as they accrue, materials and equipment must be paid for within the usual terms, and the financing of the project must be arranged for. It is true that money may be borrowed temporarily, but payments of the loans must be made from time to time, and there must be some money invested in the enterprise at all times proportionate to the amount of the temporary loans, in order to provide the necessary credit.

Even assuming that the defendants' theory of the method of reproduction were to the adopted, the figures of their witnesses seem to me to be inadequate. Their evidence fails to convince me that the reproduction could be carried out, and the necessary funds obtained in the manner and at the costs they give.

The evidence shows that it is not unusual to employ a general contractor to construct the entire plant for a new enterprise. As stated above it has been approved as the correct theory of getting reproduction cost in rate cases. Brooklyn Borough Gas Co. v. Prendergast, 16 F. (2d) 615, P.U.R.1927A, 200.

That the money necessary to carry out a reproduction must be provided, and that the cost of obtaining it must be included in the reproduction total is recognized in the defendants' figures for "Organization," where there is included $62,255 for the expenses

incident to the preparation and issue of bonds and stock, including the solicitation of subscriptions to the stock.

The method of obtaining permanent capital by disposing of securities to, or through, a financial organization, paid for its services, is common. Taking into consideration the very large sums to be provided within a limited period, and that there should be a definite commitment of the entire amount, the method adopted by the plaintiff seems to me to be a proper one. Mr. McGregor, who is the vice president of Harris, Forbes & Co., Inc., in Boston, engaged in financing public utilities, testified for the plaintiff that assuming that there is no electric company in Worcester, and that you are reproducing a company with property identical with the plaintiff's property, that a fair estimate of the cost of financing would be at least 5 per cent. That this would be a fair price if the services of a financial organization were used was not contradicted. The defendants strenuously contend that the company would be able to raise the funds, without paying anything to bankers; that the demand for investment in electric light companies in Massachusetts is such that its securities could be sold at par. I think the evidence shows that the securities of established public utilities in Massachusetts, with established records of earnings and dividends are in demand, but I am not convinced that the same thing would be true of a new company, without such record. Even if the present company were required to raise from twelve to sixteen millions of dollars, which should be definitely committed, I am not convinced that it could be done without the intervention of bankers who would receive a commission for underwriting the issues, or who would themselves purchase them at a price less than that for which they ultimately would be distributed on the market. Even if it be assumed that the company would net par for its securities, it would have to sell enough securities to provide for the commission to the bankers.

The cost of financing as an element of value was included in the reproduction cost in the recent case, Brooklyn Borough Gas Co. v. Prendergast, 16 F. (2d) 615, P.U.R.1927A, 200, which was before a Statutory Court in the Eastern District of New York in 1926. I include it here.

[24, 25] *Working Capital.* The plaintiff's estimate includes for working capital $750,000. This amount is made up by taking an average for the past year of the monthly balances of materials and supplies actually carried by the company, the average cost of electric service rendered and billed but not paid for, and other receivables, and prepayment items. To this was added cash to the amount of $60,000 to maintain bank accounts and to provide departmental working funds and cash for emergency needs. This cash item was less than the actual average current amount of cash on hand in fact.

In the materials and supplies the item of coal included a supply for several months.

The defendants' estimate allowed $550,000 for working capital which was arrived at by deducting from the operating expenses for a year the items which were thought not to be recurring and taking one eighth of the remainder as representing the amount needed for running expenses for one and one half months, assuming that by that time the receipts for service would be in. To that was added the monthly average cost of materials and supplies, not including fuel, and not including lamps, motors, and accessories carried for resale to customers. There was also added an amount equal to one sixth of the year's cost of boiler fuel. It appeared that the supplies carried for resale to customers which were excluded from the defendants' figure amounted to $68,334. The defendants did not question the propriety of the company's carrying these articles for resale to customers, and admitted that there was an element of service to its customers in its so doing.

The defendants' estimate allowed less for coal on hand than was actually carried by the company's usual practice. I see no reason why the articles carried for resale should be eliminated from this account, or why the judgment of the officials as to the advisability of carrying a larger supply of coal should not control.

The plaintiff's method of arriving at the amount of working capital seems to be more nearly in accord with the facts as they exist in the actual operation of the business, and I see no reason why that should not be adopted.

Going Value. In the Des Moines Gas Case, 238 U. S. 153, P.U.R.1929B.

165, 59 L. ed. 1244, P.U.R.1915D, 577, 584, 35 Sup. Ct. Rep. 811, the Supreme Court says: "That there is an element of value in an assembled and established plant, doing business and earning money, over one not thus advanced, is self-evident. This element of value is a property right, and should be considered in determining the value of the property, upon which the owner has a right to make a fair return when the same is privately owned although dedicated to public use."

Since that decision the Supreme Court repeatedly has asserted and applied that principle, and there seems to be no question that it must be recognized and applied as a rule of law by which this case must be governed.

In Massachusetts, under a statute permitting the purchase of a privately owned water company by a municipality, provision was made for the appointment by the Court of a Commission which should "determine the fair value of said property for the purposes of its use by said city," and it was provided that "Such value shall be estimated without enhancement on account of future earning capacity or goodwill, or on account of the franchise of said company."

The Commission found that the plant was a going concern and in full operation, "one that had been tested by experience and with which the city could begin the immediate prosecution of the business of supplying water," and that this element of enhancement supplied $40,000 as an element of value which they found to total $275,000. This was approved by the Court. Newburyport Water Co. v. Newburyport, 168 Mass. 541, 47 N. E. 533.

In a similar case the Commission found that "the cost of duplication, less depreciation, of the different features of the physical plant . . . does not represent a fair valuation of this plant, welded together, not only fit and prepared to do business, but having brought that business into such a condition that there is an enhanced value created thereby," and valued this element at $75,000 in an aggregate value of $600,000. Gloucester Water Supply Co. v. Gloucester, 179 Mass. 365, 383, 60 N. E. 977.

These cases show a clear recognition in Massachusetts that there is an element of value for public use, wholly apart from and independent of the cost of creating a property ready to operate.

There have been rate cases in which the Court has refused to sanction the inclusion of a specific item of going value, but those seem to be cases in which this element had been included in the estimate of value otherwise arrived at.

In the instant case, whatever may be true of the defendants' estimates, the plaintiff's other estimates include only the cost of creating the property in its final form as turned over by the contractor to the owner, and they do not include anything for the fact that the property has since been developed into a property "welded together, not only fit and prepared to do business, but having brought that business into such a condition that there is an enhanced value created thereby."

In my opinion the property of the plaintiff employed to furnish the service has an element of value as a going concern, proved by experience, tested and adjusted by actual continuous operation, shown to be capable of operation at low rates, with a trained and co-ordinated operating organization experienced in the requirements of its service, and in operation of the plant and adaptation of its facilities to the actual service required, and this element of value does not include "goodwill" or "franchise value," and is wholly apart from and additional to those elements of value which are represented by the estimate of cost to reproduce the physical property and so-called overhead items, estimated in connection therewith.

[26] In my findings as to other costs to reproduce the property, both those relating to material and labor and miscellaneous structural costs in connection therewith and those relating to general construction costs, and the other items (except in the item specifically designated "Going value") I am dealing solely with matters involved in the reproduction of the property as it would exist when accepted by the owner upon completion by the contractor. The element of value due to any enhancement thereafter I include solely in the item "Going value." Southwestern Bell Teleph. Co. v. Fort Smith, 294 Fed. 102, P.U.R.1924E, 662. Affirmed 270 U. S. 627, 70 L. ed. 768, 46 Sup. Ct. Rep. 206.

[27] Mr. Burnell said that it is impossible to build up a definite and precise estimate of going value. As a result of his experience and familiarity with public utility business he fixed

the amount of going value as 10 per cent on all the other items, and said that this going value arose after the property was turned over by the contractor.

He said that among the items which might be regarded as going to make up this going value were the cost of tuning up the physical plant after it is turned over by the contractor, the training of the organization and the personnel of the company, both before and after beginning to operate, cost of building up records and statistics over a long period of years, cost of actual securing and attaching the full number of customers, interest on proportionate parts of the property before all the customers were attached and using the service, and also a portion of taxes for the same period, the aggregate of which he estimated at from $1,771,000 (or 11.1 per cent of all other items of property) to $2,469,000 (or 15.5 per cent).

Mr. Edward J. Cheney, a consulting engineer specializing in public utilities matters, a witness for the plaintiff, testified that he regarded going value as "the additional value inhering in an operating property with business attached and with a seasoned and co-ordinated plant and personnel, as compared with one not thus advanced and consisting merely of physical units built and operable, but not actually operating, and having no business and no operating organization;" that he valued it at the cost of creating it. He included his estimates of the cost of training the organization, cost of attaching customers, and the abnormal expenses to which the company would be put in proportion to its business during the period before its organization would be trained and co-ordinated, and its plant used to full capacity.

The defendants offered no evidence as to the amount of going value. Mr. Husselman entirely eliminated this item from his estimate, on the theory that it was already covered by the items of expense in his estimates of reproduction costs.

In Westinghouse Electric & Mfg. Co. v. Denver Tramway Co. 3 F. (2d) 285, P.U.R.1925B, 156, 183, there were two witnesses on one side as to the amount of going value, and no evidence on that point was offered by the other side. The Master allowed an amount lower than that testified to by either of the witnesses. The Court raised this to the lowest amount testified to, saying:

"I am firmly of the notion that each of these witnesses knew much more about what it would probably cost to put a skeleton street railway plant in successful operation than I do. I know nothing on the subject. I am sure they each knew a great deal; and I see no escape from accepting the lowest amount named in the testimony."

In the latest decision on this subject by the Supreme Court (McCardle v. Indianapolis Water Co. 272 U. S. 400, 414, 415, 71 L. ed. 154, P.U.R.1927A, 15, 28, 47 Sup. Ct. Rep. 144), the Court, after citing the quotation given above from the Des Moines Gas Company case, says: "The evidence is more than sufficient to sustain 9.5 per cent for going value. And the reported cases showing amounts generally included by Commissions and courts to cover intangible elements of value indicate that 10 per cent of the value of the physical elements would be low when the impressive facts reported by the Commission in this case are taken into account."

I have examined the report of the Commission in that case (Indianapolis Water Company Case, P.U.R.1923D, 449, 494), and find that on the subject of going value, the Commission says:

"In this case the cost of the physical property can be approximated, the cost of reproducing it on various bases is in evidence, and it is not difficult to arrive at a fairly correct sum to represent the physical or bare bones value. Any reasonable man with a knowledge of this property and the local conditions would unhesitatingly affirm that it had a value far in excess of the value of the pipe, buildings, grounds, and machinery. Consider its earning power with low rates, the business it has attached, its fine public relations, its credit, the nature of the city and the certainty of large future growth, the way the property is planned and is being extended with the future needs of the city in view, its operating efficiency and standard of maintenance, its desirability as compared with similar properties in other cities and with other utilities of comparable size in this city. These things make up an element of value that is actual and not speculative. It would be considered by a buyer or seller of the property or by a buyer or seller of its securities."

The Commission in that report gives a table of twenty-five

cases showing the allowances for going value by various courts and commissions, where the lowest allowance was 7.5 per cent and the average allowance was over 14 per cent of the cost of reproduction.

In view of the foregoing I am constrained to fix the amount for going value at 10 per cent of the other items of reproduction cost.

Summarizing the foregoing as to "General construction costs" and "Other items" I have allowed for "Engineering and construction" 5 per cent on the total of "Material and labor;" for "Interest during construction" an amount figured at the rate of 6 per cent per annum under a budget based on the entire amount of money to be provided; for "Miscellaneous costs during construction" 1 per cent on the total of land and material and labor; for "Organization" 1 per cent on the total of land and material and labor; for "Working capital" the amount estimated by the plaintiff; for "Cost of financing" 5 per cent of the total expenditures, not including the cost of financing; for "Going value" 10 per cent of the other reproduction items.

Depreciation.

[28] Prior to 1921 the company did not carry on its books a depreciation reserve, although the amounts annually charged for depreciation were in fact invested in the property and appeared on the books. To balance the books the practice was to mark down the book value of the property by the amount of depreciation, thereby reducing the capital account accordingly.

The real fact was that during that time the actual additions to property in this way exceeded by a large amount the amount of property actually retired, so that the actual cost of the property in existence in 1921 exceeded the book value by approximately $2,500,000, which amount would have appeared as a depreciation reserve if the books had been kept on that method.

In 1921, the method was changed, and a depreciation reserve was set up, but the Commission refused to allow the company to include in the depreciation reserve any amount on account of the depreciation charged before that time, and to correct its property account accordingly, although the Commission accepted the company's figures as to those matters.

The present depreciation reserve ($2,226,735.83 as of June

30, 1927), therefore, represents only the depreciation which has been charged since 1921, less such amounts as have been credited on account of retirements since that time, and the present property account does not truly reflect the cost of the existing property.

The fact is that the aggregate of the amounts annually charged for depreciation up to June 30, 1927, above the amount of retired property, is $4,784,134.

It is suggested that this amount is a measure, or evidence of the amount to be deducted from cost to reproduce new in order to arrive at present value. I am unable to accept that view.

All that is received by the company in compensation for the service it renders belongs to the company, whether applied to current expenses and actual retirements and replacements, or set aside for future requirements of that character, or distributed as dividends, or retained as surplus, and in so far as it is invested in the property used to render the service, the company is entitled to have it included in the rate base.

"The just compensation safeguarded to the utility by the 14th Amendment is a reasonable return on the value of the property used at the time that it is being used for the public service. And rates not sufficient to yield that return are confiscatory. . . . Constitutional protection against confiscation does not depend on the source of the money used to purchase the property. It is enough that it is used to render the service. . . . The relation between the company and its customers is not that of partners, agent and principal, or trustee and beneficiary. . . . The revenue paid by the customers for service belongs to the company. . . ."

"Customers pay for service, not for the property used to render it. Their payments are not contributions to depreciation or other operating expenses, or to capital of the company. By paying bills for service they do not acquire any interest, legal or equitable, in the property used for their convenience or in the funds of the company. Property paid for out of moneys received for service belongs to the company, just as does that purchased out of proceeds of its bonds and stock." Public Utility Comrs. v. New York Teleph. Co. 271 U. S. 23, 30, 32, 70 L. ed. 808, P.U.R.1926C, 740, 744–746, 46 Sup. Ct. Rep. 363.

In Fall River Gas Works v. Gas & E. L. Comrs. 214 Mass. 529, 538, 102 N. E. 475, the Court says: "It is the duty of a public service corporation to have its plant large enough to perform the service for which it was established, and it has a corresponding right to have such plant fairly capitalized. It is its duty to keep up the plant, whether by repairs or otherwise, out of its earnings, and this duty is superior to its right to distribute its earnings in dividends. If the time comes when the plant of the corporation is insufficient for the performance of its corporate duties to the public, then it is subject to the same duty, and is invested with the same right with reference to the additional plant as in the case of the original plant—the duty to increase the plant and the right to capitalize fairly the value of that increase.

"When the corporation has performed all its duties, and by its fortunate situation, good management, or any lawful conduct has remaining as surplus of earnings, it has the right to distribute this surplus among its stockholders in dividends. As between the public and the corporation the earnings belong to the corporation. . . . The relations between a public service corporation and the public to serve whom it is chartered are not those of a partnership, but rather those of independent contracting parties."

[29, 30] The depreciation reserve represents what remains of the amounts which annually have been charged for depreciation, after deducting therefrom the amount of actual retirements. The annual charge for depreciation is not a determination, or even an estimate, of what has actually happened. It is only a book entry intended to cover not only what has happened, and is happening, but also what may be expected to happen in the future, with some margin over. It is an estimate which includes contingencies which may never happen, and which if they do happen, cannot be predetermined with any exactness either as to amount or time of happening.

[31] The deduction from cost to reproduce in order to arrive at present value is to represent the amount by which the present condition fails to equal new, and should not exceed the amount of present actual depreciation.

The depreciation reserve does not furnish a measure of the

present condition as compared with new, and should not be deducted from cost to reproduce in order to find present value. New York Teleph. Co. v. Prendergast, 300 Fed. 822, P.U.R. 1925A, 491; Southern Bell Teleph. & Teleg. Co. v. Railroad Commission, 5 F. (2d) 77, 95, P.U.R.1926A, 6; Pacific Teleph. & Teleg. Co. v. Whitcomb, 12 F. (2d) 279, 284, P.U.R.1926D, 815.

In the quotation, above referred to, from the McCardle case (272 U. S. 400, 71 L. ed. 154, P.U.R.1927A, 15, 24, 47 Sup. Ct. Rep. 144), the Supreme Court says that: "The present value of lands plus the present cost of constructing the plant, less depreciation, if any, is a fair measure of the value of the physical elements of the property."

What is meant by the words "less depreciation, if any?" This language implies that there are, or may be, cases in which the present value of the physical elements for rate purposes is the same as the present cost of construction.

[32] If the thing to be considered is the present value of the plant as an entity, capable of successful economical and efficient operation as a whole, it may well be that the value of such an entity is equal to that of an exact counterpart newly constructed.

Although a specific building, or machine, appliance, pole, fixture, or other article taken by itself, has a less value than if newly constructed or supplied, it may well be that when all of the various component parts are taken in their combination as a complete and operating unit, with the appropriate and necessary maintenance and replacements, in detail from time to time, the value practically is not materially less than if new.

I think it would not be contended that the well-established successful public utilities, which are adequately maintained, are steadily decreasing in value through lapse of time, age, or wear and tear. The general course marketwise of the securities of such indicates the contrary.

The fact that the present cost of acquiring, assembling, constructing, and unifying the elemental component parts, at present prices for materials and labor, may be used as a basis for measuring present value, does not necessarily require a corresponding separation and disintegration of corresponding parts in the plant

to be valued, as a means of obtaining a comparison of the value of the old with the new.

[33] The relation which the present value of a single used rail, pole, boiler, generator, or other elemental part, bears to the present value of a corresponding new part, does not furnish any adequate measure of an allowance or deduction to be made for the plant as a whole in comparison with one newly constructed.

It may be that the present physical condition of the component parts is reflected in the expense of maintenance, but it does not follow that it is reflected in the same way, or in the same degree, in determining present value as a whole.

It seems to me that the "depreciation, if any" which is to be deducted from the cost to reproduce new, as a means of measuring present value, is not necessarily the same thing as the aggregate which might be reached by working out depreciation for each of the different component parts taken by itself and apart from its relation to the other parts; that the thing to be arrived at is a determination of the present condition of the property as a whole, as compared with new. It is true that this determination must involve a consideration of the condition of the parts, the necessity of repairs, and the element of adequacy, But I think what is sought for is the condition of the plant as a whole, in the condition in which it is, making appropriate allowance for the extent to which it is affected by the condition of its parts, as compared with one newly constructed.

"The testimony of competent valuation engineers who examined the property and made estimates in respect of its condition is to be preferred to mere calculations based on averages and assumed probabilities." McCardle v. Indianapolis Water Co. 272 U. S. 400, 416, 71 L. ed. 154, P.U.R.1927A, 15, 29, 47 Sup. Ct. Rep. 144, and cases cited.

It must be remembered in this connection that the comparison to be made is with a newly constructed plant of the same kind. As is said in the McCardle Case, *supra* (p. 417): "There is to be ascertained the value of the plant used to give the service and not the estimated cost of a different plant."

The evidence shows that in an electric plant of this character only a small portion of the property is replaced because it wears

out. Commonly the major items are replaced because of changes in the art, because of obsolescence, or inadequacy, rather than because of their life having been exhausted, or because of wear out.

The plaintiff's evidence as to the amount to be allowed as "depreciation" to be deducted from the cost to reproduce new in order to arrive at present value is as follows:

Reproduction Cost New		Depreciation	Rate
Electric property in Worcester:			
Material and labor	$11,732,852	$1,050,825	8.9+%
General construction costs	1,789,000	53,000	2.9+%
Material, labor, and general construction costs	$13,521,852	$1,103,825	8.1+%
Electric property in Leicester:			
Material and labor	$108,836	$7,800	7.1+%
General construction costs	11,300	400	3.5+%
Material, labor, and general construction costs	$120,136	$8,200	6.8+%

Mr. Burnell, who gave these figures, had been engaged on the work of this appraisal since August, 1927, being employed on it more or less continuously ever since, giving to it the equivalent of four months of his time. He testified that he himself had spent about two months in Worcester on this work, and that he had from twelve to fifteen men of the Stone & Webster staff assisting him.

The figures above given as to depreciation represent the Stone & Webster estimates of accrued depreciation, giving consideration to the physical condition of the property, to accrued obsolescence where found, and to the adequacy of the property to perform the work that it is intended to do, as ascertained by inspection and observation during the time above stated.

Mr. Burnell also testified to figures prepared by Stone & Webster as to the amount which would be required to restore the property to 100 per cent operating condition, which, as to the property in Worcester amounted to $326,000.

The defendants' figures as to depreciation were as follows:

Reproduction Cost New		Depreciation	Rate
Electric property in Worcester:			
Materials and labor	$10,117,653	$2,441,360	24.1+%
General construction costs	1,108,226	271,515	24.5+%
Material, labor, and general construction costs	$11,225,879	$2,712,875	24.1+%

They gave no figures as to depreciation on the property in Leicester.

These figures were the result of the testimony of three different witnesses, Mr. Miner, Mr. Rau, and Mr. Husselman, who respectively, in the main, testified as to different parts of the property.

Mr. Miner testified that he had been in Worcester only four times, each time going from Boston by car or bus, and arriving there not earlier than between 10 and 11 o'clock A. M. and leaving Worcester between 5 and 6.30 o'clock P. M. to return to Boston, and that most of his work in connection with the appraisal had been done in Boston.

Mr. Rau first went to Worcester about a week before the hearings began, and was there probably four days. He said he gave the property as a whole a cursory examination; that he found it well maintained; that it was normally maintained; that it appeared to be under good management; that he made no list of repairs immediately needed, and did not observe any repairs that had been neglected; that it was in good operating condition to deliver the class of service required of it.

Mr. Husselman testified that he was first employed in the case about the time that Mr. Burnell finished his testimony; that he came here May 31, and went to Worcester to examine the property on two occasions, on the first day of June for the first time, not getting there till noon and leaving about 5 o'clock, and on June 11, getting there about 10.40 A. M. and leaving about 6 o'clock.

[34] The defendants allow for depreciation of the general construction costs "Engineering and superintendence," "Law expenditures," "Interest," "Taxes," and "Miscellaneous expenses," sometimes called "Overheads," while the plaintiff allows for depreciation only on the item "Engineering and superintendence." In this I think the plaintiff is right.

These items, with the exception of "Engineering and superintendence," as to which there may be some doubt, represent expenses which are nonrecurrent, and, therefore, will not have to be replaced.

Galveston Electric Co. v. Galveston, 272 Fed. 147, 169, P.U.R.1921D, 547, 578, where it was held that these items are not depreciable, the Court saying (p. 169):

"That this disposition is sound as to such items as interest during construction, organization expense, law expense, etc., admits of no doubt, because under no kind of theory could they be supposed to be subject to depreciation, and what doubt might arise with reference to the propriety of including engineering charges in these figures is at once dissipated when it is considered that the property will not be constructed again as an entirety, but is to be kept up by annual renewals from time to time made, so that engineering, and other such overheads caused by the assembling of the plant, will not have to be provided against, because they will not be again incurred." Affirmed 258 U. S. 388, 66 L. ed. 678, P.U.R.1922D, 159, 42 Sup. Ct. Rep. 351.

In determining the "fair cost of replacing" a utility the Massachusetts Commission said:

"In the opinion of the Commission the words 'fair cost of replacing' are equivalent to 'cost of reproduction new less accrued depreciation,' and this is, it seems, the interpretation which has always been given to the words in practice in the past. . . . No allowance was made for depreciation in the case of a large portion of the overhead charges, on the ground that most of these charges would not arise in connection with replacements." Re Withington, P.U.R.1917B, 410, 411.

After careful consideration of the evidence I am satisfied that the defendants' witnesses, in making their estimates of depreciation, have allowed for elements which should not be included, such as possible changes in the future requirements of the company, possible future developments and changes in the art, and in some instances they appeared largely to have been influenced by, if not to have adopted, the straight-line method of depreciation. It is also apparent that the observation and inspection of the property by the defendants' witnesses was far less extensive and exhaustive than that of the plaintiff's, and that defendants' depreciation estimates are largely based on consideration of records as distinguished from observation of the property. The

deduction of approximately 25 per cent of the cost new to cover accrued depreciation of a property which is admittedly well maintained, "its production efficiency is as good now as it would be when new," (Rec. p. 3151) and which is serving the people of Worcester "more efficiently" than it was the first year it was in operation (Rec. p. 3152), seems to me to be wholly unsupported by the evidence. McCardle v. Indianapolis Water Co. 272 U. S. U. S. 400, 416, 71 L. ed. 154, P.U.R.1927A, 15, 47 Sup. Ct. Rep. 144.

While I think the plaintiff's estimate much more nearly represents the facts as to the present condition of the property, I think there are substantial items, such as the general office building where extensive changes were already planned, the pole line, and the old stack at Faraday street, in which the plaintiff has failed to recognize sufficiently the depreciation due to admitted present conditions. As against this the plaintiff deducted for depreciation on the cost of paving which I have not adopted. To allow for these matters I think $250,000 should be added to the plaintiff's depreciation on materials and labor, which would make it approximately 11 per cent of the materials and labor cost.

I, therefore, adopt 11 per cent as the rate of depreciation on the materials and labor items in Worcester, and the plaintiff's figure for depreciation on general construction costs.

I find the cost to reproduce new of the property in Worcester, and the amount of accrued depreciation to be deducted therefrom to be as follows:

Electrical Property in Worcester.

	Cost to Reproduce New	
Land (market value)		$435,063
Construction and Equipment.		
(a) Material and labor:		
Structures	$1,442,695	
Boiler plant equipment	1,345,492	
Turbo-generator units	1,182,781	
Electric plant—steam	350,321	
Miscellaneous power plant equipment—steam	66,577	
Substation equipment	678,939	
Poles, fixtures and overhead conductors	796,367	
Underground conduits	2,100,108	
Underground conductors	1,705,872	
Consumers' meters	482,434	
Consumers' meter installation	63,648	
Line transformers	356,658	
Transformer installation	71,608	
Street lighting equipment	477,362	
Office equipment	76,861	
Shop equipment	8,681	
Stores equipment	5,850	
Transportation equipment	74,885	
Laboratory equipment	27,717	
Miscellaneous equipment	23,786	
Total material and labor	$11,338,642	
(b) General construction costs:		
Engineering and superintendence	$566,935	
Law expenditures during construction	25,000	
Interest during construction	833,913	
Taxes during construction	45,000	
Miscellaneous expenditures during construction	119,446	
Total general construction costs	$1,590,294	
Total construction and equipment		12,928,936
		$13,363,999
Organization	$119,446	
Working capital	750,000	
Cost of financing	711,172	
Going value	1,494,461	3,075,079
Grand total all property in Worcester		$16,439,078
Deduct accrued depreciation 11 per cent on material and labor	$1,247,250	
Plaintiff's allowance on engineering and superintendence	53,000	
Total deduction accrued depreciation		1,300,250
July 1, 1927 value cost to reproduce new less accrued depreciation		$15,138,828

The estimate of original cost prepared by Stone & Webster and referred to above gives the actual cost of the property in Worcester, material and labor, $9,033,062.

P.U.R.1929B.

The application to this amount of the trend of prices for electric property, as shown by the chart of trended prices above referred to, gives a result of present cost of material and labor $12,310,620, which is about 8 per cent more than the corresponding figure I have arrived at in the appraisal.

Property in Leicester.

With regard to the electric property in Leicester I find the July 1, 1927 cost to reproduce new as follows:

Land	$600
Construction and equipment	120,136
Other items	33,800
Total property	$154,536
From which is to be deducted for accrued depreciation	8,200
	$146,336

This makes the July 1, 1927 cost to reproduce the entire property $16,593,614.

Total July 1, 1927 cost to reproduce the entire property less accrued depreciation $15,285,164.

From July 1, 1927 to December 31, 1927 there were net additions amounting to $236,171, making the total cost to reproduce the property in use December 31, 1927, less accrued depreciation $15,523,335.

Rate of Return.

In considering what is the proper rate of return which the plaintiff should be allowed to earn it must be remembered that this refers to the ratio between the net earnings and the present value of the plaintiff's property; it is "a reasonable rate of return on the value of the property at the time of the investigation and for a reasonable time in the immediate future." McCardle v. Indianapolis Water Co. 272 U. S. 400, 408, 71 L. ed. 154, P.U.R.1927A, 15, 22, 47 Sup. Ct. Rep. 144.

"The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties." Bluefield Water Works & Improv. Co. v. Public Service Commission, P.U.R.1929B.

262 U. S. 679, 692, 67 L. ed. 1176, P.U.R.1923D, 11, 21, 43 Sup. Ct. Rep. 675.

"The rate of return on the property is not to be confounded with the amount of dividends that a corporation might pay on its capital stock. Indeed, according to all successful business experience, a corporation paying out in dividends all or even the major part of its net earnings is courting speedy disaster." Consolidated Gas Co. v. Prendergast, 6 F. (2d) 243, 280, P.U.R. 1925C, 744, 749.

The defendants introduced the evidence of Mr. Herdman, an investment statistician employed by Jordan Lyman Company in Boston. He testified that he established the trend of various groups of securities over a period of years; the movement of commodity prices in relation to interest rates; that commodity prices are a vital factor in the rate of return demanded by the investor, the two moving together very closely; that the Massachusetts tax is reflected in the price and makes the stock of Massachusetts companies more attractive; that the attitude of investors toward electric lighting securities is very favorable with the idea that more profits will be made and more return in dividends; that the Massachusetts companies as a class have less bonds than companies outside of Massachusetts; that the yield on bonds is considerably less than on stocks; many Massachusetts companies being able to finance with 4½ per cent coupons on short-term bonds, and several could on long term bonds; he had made a study of the net earnings of ten representative Massachusetts electric lighting companies, and of the market value of their securities, which he embodied in a chart which was put in evidence; he also testified to charts showing the trend of government bonds and the return thereon, from 1920 to 1928, the yield of relatively high grade long term railroad bonds from 1870 to 1928, the trend of yield of public utility bonds from 1900 to 1928, and the trend of commodity prices from 1800 to 1928, all of which were put in evidence. From these various factors he gave it as his opinion that in order to maintain its credit and to attract new capital the net earnings of an electric light company in Massachusetts should be 6 per cent of the market value of all its securities outstanding. He also said that per cent of re-

turn would be very much less if the comparison were made with the amount of dividends actually paid on the securities.

The Commission in its report on this case says that "The market value of the company's stock is, and for sometime has been, at least six times the par value."

It appeared that in June and the summer of 1927 the plaintiff's stock was selling at $208–$210 a share. There are 96,000 shares, so that the market value of all the outstanding securities of the plaintiff at that time would be approximately $20,000,000 and 6 per cent of that amount would be approximately $1,200,000 as the requisite net earnings if figured according to Mr. Herdman's formula.

Mr. Attwill, one of the defendants, who has been Chairman of the Massachusetts Department of Public Utilities since 1919, testified that dealing with the issue of stock, and determining the price at which it shall be sold, is, in a large sense one of the major activities of the Department; perhaps the largest of the activities; that the statute provides "in the instance of the gas and electric companies that the directors shall prescribe the price at which the stock shall be sold; and that price has to be approved by the Department, and the statute provides that it shall not be issued at a price so low as to be inconsistent with public interest, and if the Department in reviewing the question comes to the conclusion that it is so low as to be inconsistent with the public interest, then we will require a higher price," and that the expression "so low as to be inconsistent with the public interest" was interpreted to mean "that the price should not be lower than the price at which the stock would sell readily in the market." He also testified that he had occasion while he has been on the Commission to consider and know "the going rate which will attract capital as an income on electric light company's securities here in Massachusetts of the character and standing" of the plaintiff, and that that rate is, and was in 1927, "something between 5 and 6 per cent on electric companies, possibly lower at the present time;" also that he had occasion to consider in the same connection "what return on the value of the property employed by a company such as this was reasonably sufficient to assure confidence in the financial soundness of the

utility and adequate, under efficient management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its proper duties," and that such return would be "substantially as the answer before, because, as I have said its capital is represented entirely by stock;" also that in his opinion the "rate of return sufficient to attract new capital for investment in the Worcester Electric Light Company, or plant, or a company similar to the Worcester Electric Light Company, in 1927,—and by 'return' I mean a return upon the value of all the property and assets of the company" would be "6 per cent or something less;" that in the matters before the Department the question of the value of the company's property usually has not been raised, "it has been the unusual thing, and not until recently has it been raised,—I think raised at all seriously" until raised in this case.

It appeared that in 1921 the plaintiff applied to the Department for authority to issue 4,000 new shares, par value $100 each, at the price of $155 each. At the hearing on this application before the Department "it was stated in answer to the question from the members of the Department that the dividend was 12 per cent and that extra dividends had been paid in the last two years, the preceding year being 9 per cent, making a total of 21 per cent." One of the Commissioners said "the price of $155 troubled him as to whether or not it was too low. He thought it was rather low." In response to an inquiry as to how the figure of $155 was arrived at it was stated that the directors "felt $150 was a fair price." The Commission said "8 per cent does not look very large now but it used to be quite material." The Department approved the issue at the price of $155. August 1, 1921, this stock was issued to stockholders at $155 a share, and on September 23, 1921, a dividend of 3 per cent was declared on all the stock, including the new issue, and on December 23, 1921, a similar dividend of 3 per cent was declared. The next year dividends amounting to 20 per cent were declared on all the stock.

During the last five years the net earnings of the plaintiff (after deducting the charge for depreciation) and the dividends paid on the stock were as follows: 1927, earnings $1,068,788.66,

dividends $576,000; 1926, earnings $804,869.42, dividends $1,104,000 (this included a special dividend of $720,000 made for the purpose of adjusting the book value of the stock in connection with a proposed merger with the gas company); 1925, earnings $891,001.66, dividends $552,000; 1924, earnings $803,194.09, dividends $528,000; 1923, earnings $799,541.74, dividends $480,000.

From the foregoing it appears, that in no one of the past five years have the net earnings of the plaintiff reached the amount set by Mr. Herdman as the necessary ratio to market value, as shown by the sales in 1927, and that if $150 (the minimum estimate of the Department) be taken as the basis for determining market value, the net earnings in 1923, 1924, and 1926 did not come up to Mr. Herdman's ratio; also that in 1921 the Department recognized approximately 8 per cent as the return necessary to secure new capital as against Mr. Attwill's present estimate of 6 per cent or something less.

The plaintiff introduced the evidence of Mr. McGregor, vice president of Harris, Forbes & Company, investment bankers in Boston, who testified that he was familiar with the financing and operation of public utilities generally in the state of Massachusetts and in the city of Worcester; that he is familiar with the rate of return over and above operating expenses, taxes, and maintenance charges which investors in public securities expect, and that this is not identical with the dividend rate on the stock; that a public utility enterprise in order to assure confidence in its financial stability and to create and maintain credit so as to enable it to obtain funds in all future contingencies must earn a return which provides a margin above any requirements for interest or dividends, in order to attract capital, and that such return should be at least 8 per cent on the present value of the property; that this has no necessary relation to the original investment in the property; that this 8 per cent would be for distribution, for interest, for dividends and for a surplus margin over these, so that you would have a reasonable expectancy of continuing to get it in years to come; that a going public utility company ought to show a return of at least 8 per cent on the value of its property in order to keep its credit and securities

in such condition that it can comfortably finance itself for its requirements from time to time as it continues; that if it was an entirely new proposition it might be more; that in Massachusetts few companies of this character have any bond issues; that because of the tax situation in Massachusetts stocks of this character sell at high prices.

[35] It seems clear that the rate of return on the value of the property is not to be determined by the rate of return on securities, and that it should be something more than is required by the rate to be paid for new capital. No business is free from risks and uncertainties, and the business of electric service is susceptible to fluctuations from changes in demand due to general business conditions, especially in an industrial and business community, and from variations in the cost of fuel, supplies, etc. The net earnings should be such as to give adequate protection against such uncertainties, and a reasonable assurance that the rate of return required by new capital will continue to be paid.

[36] I think the evidence sustains 8 per cent on the value of its property as the rate of net return which the plaintiff is entitled to earn. This also seems to be in accord with recent decisions, some of which appear to treat this rate as established as matter of law. New York Teleph. Co. v. Prendergast, 300 Fed. 822, P.U.R.1925A, 491; Consolidated Gas Co. v. Prendergast, 6 F. (2d) 243, P.U.R.1925B, 773, P.U.R.1925C, 744; Kings County Lighting Co. v. Prendergast, 7 F. (2d) 192, P.U.R. 1925C, 705, P.U.R.1925E, 5. Affirmed 272 U. S. 579, 71 L. ed. 249, P.U.R.1927A, 39, 47 Sup. Ct. Rep. 199; Brooklyn Union Gas Co. v. Prendergast, 7 F. (2d) 628, P.U.R.1926A, 412. Affirmed 272 U. S. 579, 71 L. ed. 249, P.U.R.1927A, 39, 47 Sup. Ct. Rep. 199; New York & Richmond Gas Co. v. Prendergast, 10 F. (2d) 167, P.U.R.1925E, 19, P.U.R.1926B, 759; Springfield Gas & E. Co. v. Public Service Commission, 10 F. (2d) 252, P.U.R.1926C, 858; United Fuel Gas Co. v. Public Service Commission, 14 F. (2d) 209, P.U.R.1927A, 707; Brooklyn Borough Gas Co. v. Prendergast, 16 F. (2d) 615, P.U.R. 1927A, 200; Interborough Transit v. Gilchrist, 26 F. (2d) 912, P.U.R.1928D, 92.

Earnings.

In the report issued by the Department in connection with the order prescribing reduced rates, it was estimated that, allowing for an increased use for domestic purposes because of reduction in rates, the net available revenue would be in excess of $600,000.

Because of the injunction issued in this case, the prescribed rates in fact have not been in force, but computation of net available revenue under the prescribed rates, as applied to the business of the plaintiff, as actually conducted, showed that the net available income under these rates, if applied to the entire period of twelve months ending June 30, 1927, would have been $604,699.72, and if applied to the entire period of twelve months ending December 31, 1927, would have been $660,437.83.

Counsel for defendants put in evidence a forecast estimate as to the net available income which would result under the prescribed rates for the period of twelve months ending December 31, 1928. This was prepared in June, 1928 by an employee of a firm of public accountants who had a technical electrical engineering education, and it was based upon his studies of the company's records, but without other knowledge as to conditions in Worcester, and it forecast a net available income for the full year 1928 amounting to $1,186,053.34.

Some time after the closing of the evidence and arguments, I suggested to counsel the desirability of showing what the net result of the prescribed rates would be if applied to the actual operations of the company for a period of at least a year after the effective date of the order.

Thereafter, by agreement of counsel, there were submitted to me certain statements showing actual operations of the plaintiff for a period of twelve months ending September 30, 1928, adjusted to the prescribed rates, together with letters of counsel commenting thereon, all of which by agreement of counsel have been marked as exhibits in the case, and are numbered respectively: Exhibits 144, 145, 146, 147, 148, 149, 150, 151, 151a, 152, and 153.

From these exhibits it appears that if the prescribed rates were applied to the actual business as carried on by the company

for the period of twelve months ending September 30, 1928, with the expenses and charges actually made by the company for that period, the net available return would have been $729,690.01.

It is, of course, possible that the actual use of the prescribed rates might result in some increase in business, to what extent is problematical.

Counsel for defendants contend that the net available revenue shown by actual operations is improperly reduced by charging to current income the expenses incident to this rate case, and by the allowance of a charge for annual depreciation greater than is required. There were included in the actual operations of the company items of rate case expense, and charges for annual depreciation, as follows:

For the period of twelve months ending June 30, 1927, rate case expenses	$16,493.27
Charge for annual depreciation	422,248.95
For the period of twelve months ending December 31, 1927, rate case expenses	106,788.18
Charge for annual depreciation	427,537.00
For the period of twelve months ending September 30, 1928, rate case expenses	141,634.85
Charge for annual depreciation	436,784.05

[37] In the forecast for the entire year 1928, submitted by counsel for defendants, there was no provision for payment of any rate case expense, and the allowance for annual depreciation was $251,186.17, which was made up of $5,191.64, that being the amount allowed by the company for annual depreciation on the property in Leicester, and $245,994.53, which was an amount testified to by Mr. Husselman as, in his opinion, being a sufficient allowance for annual depreciation of the property in Worcester, and was arrived at by him by percentages of original cost, after deduction for what he considered salvage values, and allowances for retirements and previous depreciation.

As has been pointed out above, the annual charge for depreciation is not a definite determination of exact accrued depreciation.

It includes more than accrued and accruing deterioration and obsolescence from use and time; it is also an attempt to provide against future uncertainties and contingencies of different kinds. It should include what observation and experience suggest as likely to happen with some margin over. New York Teleph. Co. P.U.R.1929B.

v. Prendergast, 300 Fed. 822, P.U.R.1925A, 491; Southern Bell Teleph. & Teleg. Co. v. Railroad Commission, 5 F. (2d) 77, P.U.R.1926A, 6.

Obviously this requires the exercise of sound business judgment based on knowledge and experience of the property.

The evidence shows that it was the practice of the plaintiff to determine the amount of its annual charge for depreciation after consideration by its officers who were familiar with the property, and were experienced regarding it, and upon whom rested the responsibility for its current and future successful operation. It appeared that over a period of years the policy of the plaintiff as to annual depreciation was continuous, and that there had been deducted as an operating charge, and reported as such to the Department, amounts for annual depreciations as follows: In 1925, $415,207, in 1926, $422,248, in 1927, $427,537. In the order prescribing rates, and in the opinions rendered by members of the Department in connection therewith, there is no criticism of the practice of the company as to its charge for annual depreciation, and no suggestion that such charges are excessive, or that they should be decreased.

"It must never be forgotten that while the state may regulate with a view to enforcing reasonable rates and charges, it is not the owner of the property of public utility companies and is not clothed with the general power of management incident to ownership. The applicable general rule is well expressed in State Public Utilities Commission ex rel. Springfield v. Springfield Gas & E. Co. 291 Ill. 209, 234, P.U.R.1920C, 640, 125 N. E. 891. 'The Commission is not the financial manager of the corporation and it is not empowered to substitute its judgment for that of the directors of the corporation; nor can it ignore items charged by the utility as operating expenses unless there is an abuse of discretion in that regard by the corporate officers.'" Missouri ex rel. Southwestern Bell Teleph. Co. v. Public Service Commission, 262 U. S. 276, 289, 67 L. ed. 981, P.U.R.1923C, 193, 200, 43 Sup. Ct. Rep. 544.

"While the city may prescribe rates for telephone service, it is not the owner of the telephone plant. The telephone company is the owner of the plant and operates it. Its officers and em-

ployees are charged with the responsibility of its operation. Their experience enables them to form a judgment with reference to the amount to be reserved for depreciation. Until the Interstate Commerce Commission through its investigation shows the amount reserved by the company to be excessive, prudence would dictate that the judgment of the company upon that point should be permitted to stand." Southwestern Bell Teleph. Co. v. Fort Smith, 294 Fed. 102, 108, P.U.R.1924E, 662, 670. Affirmed 270 U. S. 627, 70 L. ed. 768, 46 Sup. Ct. Rep. 206.

In this case I think the company's determination as to the charge for annual depreciation should prevail.

[38] With regard to the rate case expenses I see no ground for finding that they were improperly or improvidently incurred, or that they are excessive in amount in view of the importance and complicated nature of the matters involved. The expenses of this character incurred approximate, and probably already exceed, $150,000.

It is not questioned by the defendants that this constitutes only a part of the expense which will be incurred in connection with this case.

While counsel for the defendants object to the inclusion of these items of expense in arriving at net income, they make no suggestion as to how they can be provided for other than by being charged to current income. They do, however, suggest that if they are to be included as an expense they should not all be included as an operating expense covering only one year. Counsel for plaintiff has suggested that these expenses be apportioned over a period of three years, and refers to the decisions of various Public Utility Commissions in which such expenses have been apportioned, in some instances over a period of three years, and in other instances over a period of four years.

An apportionment to current expenses of $50,000 a year should take care of this expense in from three to four years, which seems to me to be a fair and practicable method of treatment of this expense, and I, therefore, adopt it; thus decreasing by $91,634.85 the expenses for the year ending September 30, 1928.

The gross electrical revenue for the year ending September 30, 1928, arrived at by applying the prescribed rates to the actual operations for that period was:

(Exhibit 144)		$3,225,297.63
The operating costs and fixed charges for the same period were (Exhibit 146)	$2,573,861.98	
Adjustment due to decrease in federal income tax if prescribed rates had been in force (Exhibit 150)	51,434.02	
	$2,522,427.96	
Adjustment for excess rate expense	91,634.85	2,430,793.11
Net available income from electric service		$794,504.52

Apportionment.

In the report containing the order reducing the rates the Department says that the proposed reduction "in our judgment, will not deny the company any constitutional right if the reduced rate produces an adequate return from the class of business to which it applies after the payment of such portion of the operating expenses and fixed charges as should be allocated to the class," and after some explanation and discussion of the factors involved in this view, they make an estimate of the gross revenue to be derived from domestic and commercial lighting at the prescribed rates, and say "We believe this amount of revenue is more than ample to meet that portion of the operating expenses and fixed charges which may be properly allocated to these two classes of business, and to yield an adequate return upon the fair value of that portion of the property fairly assignable to these classes."

This report of the Department, however, contains no findings of fact as to that portion of the property employed, or of the operating expenses and fixed charges, which properly are assignable to the classes of residential and commercial lighting.

Certain facts are clearly established by the evidence before me:

The gross revenue from residential and commercial lighting substantially exceeds the gross revenue from all the other classes of electric service. For the year ending September 30, 1928, the gross revenue from all electric service, adjusted to the prescribed rates, would be $3,225,297.63 (Exhibit 144) of which the residential lighting in Worcester, and the commercial lighting produced $1,651,450 or slightly more than 52.1 per cent, while the gross revenue from power sales was $1,131,246, or slightly over 35 per cent.

During the same period the total sales of electricity amounted to 100,355,717 kilowatt hours, of which 33,850,052 kilowatt

hours, or 33.73 per cent, went to residence light in Worcester and to commercial light, and 56,999,089 kilowatt hours, or 56.81 per cent, went to power.

In other words the gross revenue from light was about 146 per cent of the gross revenue from power, although the amount of electric energy used for light was less than 60 per cent of the amount used for power.

There is no coincidence of peak demand for power with the peak demand for light.

Because of the resistance in the apparatus to which the power service is supplied a greater amount of productive capacity is required and used in delivering a given quantity of electric energy to power service than for the same quantity delivered to light service.

On the other hand the continuity of the use for power is more favorable than that for light.

The plaintiff, as a part of its direct case, introduced the opinion evidence of a technical expert as to the apportionment to the different classes of service of the property used and the costs of operation, for the purpose of determining the net available income for each class, and the rate of return on the property apportioned to each class. This evidence was a cost analysis, made by the witness, which was based upon three elements, viz.: the number of customers, the amount of electric energy delivered, and the demand, or peak, which is the highest amount used at any one time. The result was an apportionment to light of 52.2 per cent and to power of 35.13 per cent of all the property used in electric service, and an apportionment of operating costs and fixed charges 52 per cent to light and 36 per cent to power.

[39] The defendants also introduced the evidence of a technical expert on the same subject which resulted in an apportionment of property 42.7 per cent to light and 34.52 per cent to power, and an apportionment of expenses 44.08 per cent to light and 40.58 per cent to power. Stated in comparative form:

	Apportionment.			
	Property to Light,	To Power.	Expense to Light,	To Power.
Plaintiff	52.2%	35.13%	52%	36%
Defendants .	42.70	34.52	44.08	40.58

A great part of the difference between the two results is due

to the difference in the degree in which the so-called demand factor is recognized and applied to different parts of the property and items of expense.

Whatever may be thought of the theory on which the plaintiff's apportionment was worked out, it is apparent that the results depend upon and reflect personal judgment both in the selection of the different items to which the different basic elements respectively are to be applied, and the degree of such application. While recognizing that such selection and application involve technique and experience I think that the results so obtained cannot be blindly accepted, but must be weighed in comparison with the facts in the case.

I have given much consideration to this subject. The plaintiff's evidence as to apportionment of property and expenses fails to convince me. I am satisfied that the results obtained by the plaintiff's cost analysis are out of line with undisputed evidence, and I am unable to accept them. As between the plaintiff's and defendants' apportionment I accept and adopt that of the defendants.

The plaintiff, notwithstanding it introduced evidence as to apportionment as a part of its direct case, strongly contends that there should be no apportionment in this case, and that the question of confiscation should be determined solely by the ratio of the entire net income from electrical service to the total property employed in electrical service.

[**40, 41**] It urges that the rates for power, as a practical matter, are controlled by business conditions, and that by reason of competition, and the possibility of installation of private equipment in substitution for the company's service, it cannot obtain a greater revenue from power; that its power service is a part of its public service, developed with the approval of the Department, if not at its suggestion, and that the power rates as well as all other rates are subject to the regulation of the Department.

Assuming that all this is true, it seems to me to be beside the point in this case. The only question before this Court is whether the plaintiff is deprived of the use of its property without adequate compensation; the only ground for suggesting that it is so deprived of its property arises from the restriction imposed

by the Department upon rates to be charged. The order of the Department which is complained of applies only to the maximum net price for electricity sold in Worcester. The evidence shows, and the case has proceeded entirely upon the assumption and admission, that the only rates affected by this order are those for residential and commercial lighting in Worcester. So far as the plaintiff's other rates are concerned it appears that, to avoid any possibility or suggestion that they might be affected by this order, they were re-established by the plaintiff and approved by the Department, and there has been no evidence before me that the plaintiff in any way is restricted by the Department as to those other rates. Such restrictions or limitations, if any, as there may be in the way of an increase in those other rates arises wholly by reason of business policy, or because of the existence of conditions in no way to be attributed to the act of the Department.

The mere fact, assuming it to be a fact, that the plaintiff's entire net income from electrical service is not an adequate return on the fair value of all its property employed in that service, taken by itself does not entitle the plaintiff to prevail. The real basis of complaint is not only that such a situation exists, but that it is due to the restrictive action of the defendants. If, upon analysis of the situation, it appears that the failure to earn adequate return is due to causes for which the defendants are not responsible, the plaintiff cannot prevail. If it be said that the situation is due to two sets of causes, one of which is the restrictive act of the defendants, the question arises in what way, and to what extent, does that act operate to produce the result, which is only another way of saying can the revenue affected by the order, and the property used and expenses assignable to that revenue be allocated, or apportioned, and does such apportionment show an adequate return.

There is no difficulty in separating from the electric revenue of the plaintiff that portion which is derived from the affected rates. In fact the accounts kept by the company and the returns made by it show such separation.

The allocation to the classes of service affected of a just and fair proportion of the property used in service and of operating

expenses and fixed charges may be, and doubtless is, difficult and technical and dependent upon technical and experienced judgment, nevertheless both sides have undertaken to do it, and have put in evidence the results. Cambridge Electric Light Co. v. Attwill, 25 F. (2d) 485.

I find that that portion of the property used and useful in rendering the service under Schedules "A" and "B" is 42.7 per cent of all the property of the plaintiff used and useful in electric service; that that portion of the expenses and fixed charges to be attributed to the service under Schedules "A" and "B" is 44.08 per cent of all the expenses and fixed charges incurred in electric service; and that the gross revenue under Schedules "A" and "B" for the period of twelve months ending September 30, 1928, would be at least $1,651,450.

Conclusion.

I make the following findings:

The fair value on July 1, 1927 of all the property used and useful in the electric service was not less than $15,285,000.

The fair value on July 1, 1927 of all the property in Worcester used and useful in the electric service was not less than $15,138,000.

The fair value on July 1, 1927 of the property in Leicester used and useful in the electric service was not less than $146,000.

The fair value on December 31, 1927 of all the property used and useful in the electric service was not less than $15,523,000.

The fair value on December 31, 1927 of all the property in Worcester used and useful in the electric service was not less than $15,376,000.

The fair value on July 1, 1927 of that portion of the property used and useful in rendering the electric service under Schedules "A" and "B" was not less than $6,526,000.

Under the prescribed rates the gross electrical revenue for the period of twelve months ending September 30, 1928, would be not less than $3,225, 297.

Under the same rates, and for the same period, the operating costs and fixed charges incurred in electric service would be $2,430,793.

Under the same rates and for the same period the net available income from electric service would be not less than $794,504.

Under the same rates and for the same period the gross revenue from electric service under Schedules "A" and "B" would be not less than $1,651,450.

Under the same rates and for the same period the operating expenses and fixed charges incurred in rendering the electric service under Schedules "A" and "B" would be $1,071,493.

Under the same rates and for the same period the net available income from electric service under Schedules "A" and "B" would be not less than $579,957.

The return on the fair value of all the property of the plaintiff used and useful in rendering electric service would be less than 6 per cent of that value, if the order of the Department fixing the maximum rates in Worcester at 5 cents is in force.

The return on the fair value of the property of the plaintiff used and useful in rendering electric service to the classes of service affected by the order of the Department fixing the maximum rates in Worcester at 5 cents would be more than 8 per cent of that value.

I find that 8 per cent is a reasonable rate of return and is not confiscatory.

I rule that if the order of the Department fixing the maximum rate in Worcester at 5 cents permits the plaintiff to earn a reasonable and nonconfiscatory return on the fair value of its property used and useful in rendering the service under the classes affected by that order, and the order is valid and the plaintiff cannot prevail.

I find and rule that the order of the Department fixing a maximum rate of 5 cents in Worcester does not prevent the plaintiff from earning an adequate return upon the fair value of that portion of its property used and useful in rendering electric service to the classes of service affected by the order, and therefore, that such order is valid and is not confiscatory.

I recommend that a decree be entered dissolving the injunction heretofore issued in this case, and dismissing the bill of complaint.

I transmit herewith all the testimony and evidence received by

me, being a stenographic report of the hearings before me at which evidence was submitted and including rulings as to the admissibility of evidence and exceptions thereto, all consisting of eight bound volumes, together with the original exhibits received by me and numbered respectively 1–128 inclusive, 130–153 inclusive.

NEW JERSEY BOARD OF PUBLIC UTILITY COMMISSIONERS.

RE PLAINFIELD-UNION WATER COMPANY.

Service — Rules and regulations — Commissions — Power of utility to adopt rule.

1. The Board's authority to fix just and reasonable regulations for public utilities does not divest the utility of power to adopt regulations not inconsistent with those fixed by the Board, p. 95.

Payment — Rules — Discontinuing water for nonpayment.

2. It is the duty of a water company in revising its regulations to prevent patrons from waiting until the employee comes to cut off the water before making payment to notify the Board and customers of such a change in its procedure, p. 95.

Payment — Rules — Discontinuance for nonpayment.

3. A rule of a water company directing its employees, sent to cut off water of patrons for nonpayment, to refuse payment at that time is a reasonable regulation to prevent abuse of credit, providing adequate notice is given of such procedure, p. 95.

[January 8, 1929.]

INVESTIGATION by the Commission on its own motion of the practices of a water company with regard to discontinuing service for nonpayment of bills; no final order entered.

Appearances: John W. Queen for the Board of Public Utility Commissioners; Frank Bergen for the Plainfield-Union Water Company.

By the **Board:** The Board received a number of informal complaints to the effect that the supply of water to complainants' premises had been discontinued by the Plainfield-Union Water Company. The discontinuance of service it appeared, was due to the fact that the complainants were in arrears of payment for water supplied. It further appeared that the company's em-

ployee upon going to the premises of the complainants to discontinue the supply of water refused to accept offered payment of the amount, claimed to be due, but turned off the water.

Following receipt of these complaints, the Board on its own motion called a hearing on the question of the reasonableness of the company's rules with respect to discontinuance of service when the payment of bills is in arrears. The hearing so held disclosed the fact that the rules of the company are in general consistent with rules approved by the Board. These rules provide that service may be discontinued "for neglecting to make or renew advance payments or for nonpayment for water service, or any other charges accruing under the application."

This, however, is qualified by the following quoted from "Rules, Regulations and Recommendations for Water Utilities" issued by the Board.

"Under the heading 'Service,' conditions are mentioned under which service may be discontinued. Such discontinuance should not to be arbitrary, but reasonable notice should be given in every case in order that the customer may have opportunity to correct or remove the condition giving cause for discontinuance, or, in the event of disagreement, to submit the matter in dispute to this Board."

It does not appear that the company, prior to discontinuance of service failed to give notice, that this would be done unless its bill was paid. The question at issue, therefore, is whether a rule is reasonable which forbids an employee of the company to accept payment of an overdue bill when he goes to a premises under instructions to turn off the supply of water. Public utilities in general, apparently do not regard it as necessary to have such a rule in effect. The company, in defense of the rule, claims that unpaid bills totalling a large amount accumulated in the territory served by it; that an effort is being made to collect the accounts due; that some of the company's customers have regularly disregarded bills and notices that service would be discontinued if the bills were not paid; made payments only when the employee went to the premises to turn off the water, and that the rule, recently adopted, which forbids such employee to accept payment is justified by the conditions.

P.U.R.1929B.

At the hearing the president of the company stated "I know very well this business of turning off water is a drastic remedy to collect a small bill. The company has a standing order, if anybody applies to the company and gives any reason, sickness or inability at present to pay, to always extend credit and say, you can pay next month or whenever convenient to do it. That has always been the practice."

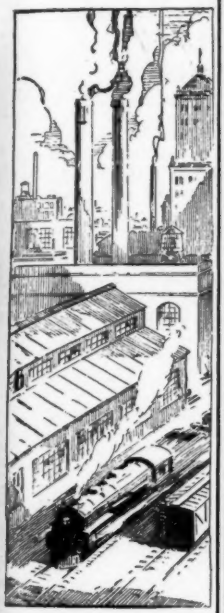
It seems to the Board that it is not a good practice for customers of a public utility, able to pay a bill within the time allowed for payment, to delay payment until the company's employee goes to the premises to discontinue service. It is conceivable that customers in arrears might not have then available money to pay the bill. In such a case, the customer would be in default, though the employee had authority to accept payment. That certain customers of the company unduly delayed payments appears to be the fact. With respect to one of the parties complaining the secretary and treasurer of the company testified:

"We had to go there to collect the last seven bills out of nine rendered and in two cases she gave the collector worthless checks. They were protested at the bank and returned to us and the collector was sent back there with the protested check and told her that if she did not make it good with cash the service would be discontinued forthwith."

[1–3] It was testified that money in payment of the bill was then produced. The conditions which had developed apparently justified some change in the company's methods of collecting its accounts. For these conditions, however, the company cannot be regarded as free from blame. It seems to have permitted bills to remain long overdue and its employees sent to discontinue service apparently were looked upon by some of the customers as collectors, and in a sense seem to have been so regarded by the company. If, as appears to be the fact this resulted in an undesirable condition calling for correction, the company should have given notice to its customers of this and notified them that after a certain date the employee sent to turn off the water would not be permitted to accept payment of the account. The company should also have notified the Board of this change in its practice.

The Board's authority to fix just and reasonable regulations and practices to be observed and followed by public utilities does not divest the utility of power to adopt regulations, not inconsistent with those fixed by the Board. The statute does not specifically require public utilities to advise the Board of the adoption of such regulations but this may be regarded as consistent with and contemplated by the act. It is in fact the general practice of public utilities to give such notice. If, at a reasonable time in advance of making the same effective, notice had been given to the customers of the company and to the Board of the company's new regulation undesirable complications and misunderstandings might have been avoided. Regulations and practices adopted by public utilities may become effective without the Board's approval, but may be set aside if the Board finds them to be unreasonable. On the record before it the Board would hesitate to issue an order setting aside the regulation under consideration. Without final disposition of the matter, it seems to the Board the conditions may be regarded as making it advisable for the regulation to remain in effect for at least a temporary period. As, however, customers not in arrears at the time of the last billing period, may be unaware of the regulation, the company should give general notice of the same, with an explanation why it deems it a proper one to enforce.

The company should also instruct its employee to personally notify the customer before cutting off the supply of water. It appears that in some cases such notice was not given. In the case of illness in the family or some other exceptional condition made known to the employee he should be under a direction to ask for special instructions from the office, or allowed to use a reasonable discretion. It may be the regulation can be enforced in such a manner as to correct what apparently has developed into an undesirable condition with respect to payments of accounts and that this may be done without injustice or undue hardship. If it appears otherwise, the question of the issuance of an order setting the regulation aside will be given further consideration.



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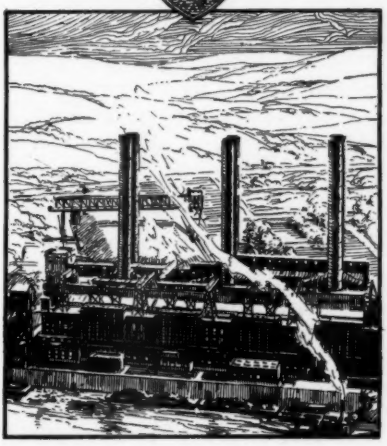

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